IRPL-F11

IONOSPHERIC DATA

ISSUED

JULY, 1945

PREPARED BY INTERSERVICE RADIO PROPAGATION LABORATORY
National Bureau of Standards
Washington, D.C.

"This document contains information affecting the national defense of the United States within the meaning of the Espionage Act, 50 U.S.C., 31 and 32. Its transmission or the revelation of its contents in any manner to an unauthorized person is prohibited by law."

IRPL-F 11 INTERSERVICE RADIO PROPAGATION LABORATORY
NATIONAL BUREAU OF STANDARDS
WASHINGTON, D.C.
Issued 20 July 1945

Organized under Joint U.S. Communications Board

IONOSPHERIC DATA

CONTENTS

Final data (continued)

Final data (continued)

TERMINOLOGY AND SCALING PRACTICES

The symbols and terminology used in this report are those adopted by the International Radio Propagation Conference, and given in detail on pages 24 to 26 of the report IRPL-C61, "Report of International Radio Propagation Conference", and in the Section on "Terminology", in reports IRPL-F1, 2, 3, 4, 5.

In the past, ionospheric conditions were summarized on a monthly basis by using average or mean values, for each hour of the day, for each month. However, following the recommendations of the International Radio Propagation Conference, held in Washington 17 April to 5 May 1944, beginning with data for 1 Jan. 1945, median values were used by IRPL wherever possible. Thus, median values are given for Washington, for all stations reporting directly to the IRPL, for the Canadian stations, and for all others sending in detailed tabulations to the IRPL, from which medians can be computed.

Where averages are reported, they are, at any hour, the average for all the days during the month for which numerical data existed.

The monthly median values used here are the values equalled or exceeded on half the days of the month at the given hour. The following conventions are used in determining the medians for hours when no measured values are given, because of equipment limitations and ionospheric irregularities. Symbols used are those given in the report referred to above, IRPL-C61.

a. For all ionospheric characteristics:

Values missing because of A, B, C or F (see terminology referred to above) are omitted from the median count.

b. For critical frequencies and virtual heights:

Values missing because of E are counted as equal to or less than the lower limit of the recorder.

Values missing because of D are counted as equal to or greater than the upper limit of the recorder.

Values missing because of G are counted:

1. For $f^{o}F2$, as equal to or less than $f^{o}F1$.
2. For h'F2, as equal to or greater than the median.

Values missing for any other reason are omitted from the median count.

c. For muf factors (M-factors):

Values missing for any reason are omitted from the median count.

d. For sporadic E (Es):

Values of fEs missing because no Es reflections appeared, the equipment functioning normally otherwise, are counted as equal to or less than the lower limit of the recorder.

Values of fEs missing for any other reason, and values of hEs missing for any reason at all, are omitted from the median count.

MONTHLY AVERAGES AND MEDIAN VALUES OF IONOSPHERIC DATA

The ionospheric data given here in graphical and tabular form were assembled by the Interservice Radio Propagation Laboratory for analysis and correlation, incidental to IRPL predictions of radio propagation conditions. The following are the sources of the data:

Australian Council for Scientific and Industrial Research
Radio Research Board, Australia
Brisbane, Q., Australia
Mt. Stromlo, Canberra, NSW, Australia
Cape York, Q., Australia.

British National Physical Laboratory, and Inter-Services Ionosphere Bureau
Radio Research Station, Slough, England
Great Baddow, England
Burghead, Scotland
Delhi, India
Madras, India
Simonstown, Union of S. Africa

Canadian Department of National Defence, Naval Service
Churchill, Canada
Ottawa, Canada
St. John's, Canada.

New Zealand Radio Research Committee
Kermadec Is.
Christchurch (Canterbury University College Observatory)
Campbell I.
Pitcairn I.
Rarotonga I.

Interdepartment Ionosphere Bureau, U.S.S.R. Scientific Experimental Institute of Terrestrial Magnetism, Moscow, U.S.S.R.
Tykhi Bay, U.S.S.R.
Tomsk, U.S.S.R.
Sverdlovsk, U.S.S.R.
Moscow, U.S.S.R.

Carnegie Institution of Washington (Department of Terrestrial Magnetism)
Baffin I., Canada
Christmas I.
Fairbanks, Alaska (University of Alaska, College, Alaska)
Reykjavik, Iceland
Maui, Hawaii
Trinidad, Brit. West Indies
Huancayo, Peru
Watheroo, W. Australia

National Bureau of Standards, Washington, D.C.
Stanford University, (San Francisco), California.
Louisiana State University, Baton Rouge, Louisiana.
University of Puerto Rico, San Juan, P.R.
Harvard University, Boston, Mass.

The tables of "provisional data" give values as reported to the IRPL by telephone or telegraph. Any errors in these values will be corrected in later issues of the F-series reports. In final data tabulations, any omission of values previously given in provisional tabulations is indicated by a dash.

The tables and graphs of "final data" are correct for the values reported to the IRPL, but, because of variations in practice in the interpretation of records and scaling and manner of reporting of values, may at times give an erroneous conception of typical ionospheric characteristics at the station. Some of these errors are due to:

a. Differences in scaling records where spread echoes are present.

b. Omission of values where $f^{o}F2$ is less than or equal to $f^{o}F1$, leading to erroneously high values of monthly average or median values.

c. Omission of values where critical frequencies are less than the lower frequency limit of the recorder, also leading to erroneously high values of monthly average or median values.

These effects were discussed on pages 6 and 7 of the previous F-series reports, IRPL-F1, 2, 3, 4, and 5. Discrepancies between predicted and observed values are often ascribable to these effects.

IONOSPHERIC DATA FOR EVERY DAY AND HOUR

These data, observed at Washington, D.C., follow the scaling practices given in the report IRPL-C61, "Report of International Radio Propagation Conference," pages 36 to 39, and the median values are determined by the conventions given under "Terminology and Scaling Practices" above. Beginning this month the table of values of F2-M3500 is omitted, since these values can be readily derived from the values of F2-M3000.

IONOSPHERE DISTURBANCES

Table 66 presents ionospheric character figures for Washington, D.C., during June 1945, as determined by the criteria presented in the report IRPL-R5, "Criteria for Ionospheric Storminess", together with American magnetic K-figures which are usually covariant with them.

Table 67 presents sudden ionospheric disturbances as observed at Washington, D.C., during June 1945.

Table 68 gives provisional radio propagation quality figures for North Atlantic and North Pacific areas, for 01 to 12 and 13 to 24 GCT, May 1945, compared with the IRPL daily radio disturbance warnings, and ISIB daily warnings, the IRPL semiweekly radio propagation forecasts for the A-zone, and the half-day American geomagnetic K-figures.

The radio propagation quality figures were prepared from radio traffic data, reported to IRPL, in the manner described in detail in report IRPL-R13, "Ionospheric and Radio Propagation Disturbances, October 1943 through February 1945," issued 24 May 1945.

Table 69 presents revised radio propagation quality figures for the North Pacific areas, for November and December, compared with IRPL warnings and IRPL A-zone forecasts.

NEW STATIONS

The new stations for which data appear in this report for the first time are Prince Rupert, Canada (54.4°N, 130.3°W), operated by the Canadian Department of National Defence (see Table 5), and Colombo, Ceylon (6.6°N, 80°E) operated by the British National Physical Laboratory (see tables 14 and 21).

IONOSPHERIC THRESHOLDS OF SOLAR ACTIVITY

IRPL studies of the correlation of ionospheric critical frequencies with solar activity, as measured by sunspot numbers, have shown that for all ionospheric layers, all locations, all seasons, and all hours of the day, the following relation holds true, to a very close approximation:

$$f^{o} = a + b\,S \qquad (1)$$

where f^{o} represents the critical frequency, S the yearly average sunspot number, a and b constants which vary with location, season, and time of day. (Cf. IRPL-R4, "Methods Used by IRPL for the Prediction of Ionosphere Characteristics and Maximum Usable Frequencies").

For any location, at any season, if the diurnal variations of a and b are expressed respectively as the time functions $f_1(t)$ and $f_2(t)$, then

$$f^{o} = f_1(t) + f_2(t)S \qquad (2)$$

The relationship of Eq. (2) may be conveniently shown by nomograms of the type presented here as Figs. 50 through 53. (Cf. IRPL-R11, "A Nomographic Method for Both Prediction and Observation Correlation of Ionosphere Characteristics").

For E-layer and F1-layer critical frequencies, the locus of points forming the diurnal time scale is a straight line, originating at $f^{o} = 0$, and extending diagonally to meet the sunspot-number scale at a value below $S = 0$. The sunspot-number intercept of these lines is identical for all seasons at a given location. If the value of this intercept is represented by A, Eq. (2) may be expressed more simply as

$$f^{o} = f_3(t)(S + A) \qquad (3)$$

thus indicating that sunspot numbers represent a remarkably good measure of the solar activity causing ionization in the upper atmosphere, but that the true threshold value of such activity lies at a value far below the formation of visible sunspots.

Values of A for $f^{o}E$ at Fairbanks, Alaska, Washington, D.C., Huancayo, Peru, and Watheroo, W. Australia, are, respectively, 996, 574, 460, and 401. For $f^{o}F1$, the respective values of A are 468, 766, 358, and 347, the first of these being of rather low accuracy.

F2-layer critical frequencies may be presented rather accurately by Eq. (2), but, for most locations and seasons, the locus of points determining the diurnal time scale is a loop which is nearly collapsed into a line, and therefore a fairly good approximation is given by equation (3). A typical example of this appears as Fig. 50 of this report, which shows the variation of $f^{o}F2$ at Washington, D.C., in December. Values of A for $f^{o}F2$ at Washington vary from 94 in June to 116 in December.

At Watheroo, W. Australia, a better approximation is given by the expression

$$(f^{o}F2 - B) = f_4(t)(S + A) \qquad (4)$$

where B varies from 0.6 Mc in June to 2.2 Mc in December, and A varies from 102 in June to 66 in December. Fig. 51 shows the variation of $f^{o}F2$ at Watheroo in June.

Notable exceptions to any approximations of the types of Eq. (3) or Eq. (4) occur in auroral regions and near the geomagnetic equator. Near the geomagnetic equator the diurnal time scale loop of these nomograms is nearly vertical for most months, as shown by Fig. 52, which presents the variation of $f^{o}F2$ at Huancayo, Peru, during February. This may be roughly expressed as

$$f^{o}F2 = f_5(t) + KS + A' \qquad (5)$$

With increasing departure of the solar declination from the latitude of Huancayo, the time-scale assumes the "figure-eight" form shown in Fig. 53, which represents the variation of $f^{o}F2$ at Huancayo during June. During the hours represented fairly well by the straight-line portions of this time scale, the relation of $f^{o}F2$ to S is that of Eq. (4), the varying slopes of different parts of the time scale representing widely varying values of B and A.

ERRATA

1. Certain provisional data for stations under the direction of the Australian Council for Scientific and Industrial Research have appeared incorrectly in past issues of the IRPL-F series under meridian time instead of under local time. The stations with the meridian time on which provisional data were reported, the meridian of the time erroneously used, the date of the data which first appeared with an incorrect time indicated, and the issue of the IRPL-F in which the data appeared incorrectly are as follows:

Station	Meridian of Local Time	Meridian of Time Erroneously Used	First Month for Which the Time Was in Error	Issues of IRPL-F
Mt.Stromlo	149.0°E	150°E	August 1944	F2,3,4,5,6,8,9,10
Brisbane	153.0°E	150°E	August 1944	F2,3,4,5,6,9,10
Watheroo	119.9°E	120°E	October 1944	F2,3,4,5,6,7,8,9,10
Cape York	142.4°E	150°E	December [illegible]	[illegible],9,10

2. The 0800 value of F2-M3000 for Boston, April 1945, should have appeared as 3.2 instead of 3.1, as it was reported in the last issue, IRPL-F11 (table 24, Fig. 11).

3. The time for the provisional data for St. John's, Newfoundland, Table 5 of the last issue, IRPL-F10, was not stated. It should have been stated as 52.5°W meridian time.

4. Tabulation of hourly values of F2-M3000 for December 1944, for Washington, D.C., Table 55, IRPL-F5, noon median value should be 3.28 instead of 2.28, as reported.

Table 1 (Provisional data)

Baffin Island, Canada (70.5°N, 68.6°W) June 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	250	4.8						3.0
01	250	4.7						3.1
02	250	4.6	230	3.0				3.1
03	320	4.3	240	3.3				3.0
04	320	4.4	240	3.4	116	2.4		3.1
05	400	4.5	230	3.6	114	2.4		2.8
06	420	4.5	230	3.8	112	2.5		2.9
07	450	4.6	240	3.8	111	2.6		2.7
08	440	4.7	240	3.9	110	2.8		2.7
09	420	4.9	250	4.1	110	2.9		2.8
10	420	5.2	230	4.2	110	2.9		2.8
11	420	5.1	240	4.2	110	2.9		2.8
12	390	5.2	230	4.2	110	2.9		2.9
13	410	5.2	220	4.2	110	2.9		2.8
14	400	5.1	220	4.1	110	2.8		2.9
15	430	4.9	240	4.0	110	2.6		2.8
16	400	5.0	230	4.0	110	2.7		2.8
17	360	5.1	230	3.9	111	2.6		2.8
18	350	5.0	240	3.7	112	2.5		3.0
19	340	5.0	250	3.9	115	2.4		3.0
20	260	5.0	240					3.0
21	250	4.8						3.0
22	250	4.8						3.0
23	250	4.8						3.1

Time: 75°W.
Length of time sweep: 2 Mc to 16 Mc in one minute.
Median values.

Table 2 (Provisional data)

Fairbanks, Alaska (64.9°N, 147.8°W) June 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	270	4.0				1.1		3.0
01	280	4.0				1.1		2.9
02	292	4.4	260	2.8		1.3		2.9
03	325	4.6	250	3.1		1.1		2.8
04	380	4.5	245	3.3		2.1		2.7
05	370	4.7	225	3.5		2.3		2.7
06	388	4.9	220	3.7		2.5		2.7
07	398	5.0	210	3.9		2.8		2.8
08	400	5.2	205	4.0		2.9		2.7
09	406	5.2	210	4.1		3.0		2.8
10	405	5.2	205	4.2		3.0		2.8
11	410	5.3	206	4.3		3.1		2.8
12	410	5.2	208	4.3		3.0		2.7
13	400	5.2	210	4.3		3.0		2.8
14	[illegible]							
15	400	5.0	215	4.2		2.9		2.8
16	385	5.0	220	4.1		2.8		2.8
17	363	5.0	222	4.0		2.6		2.8
18	325	5.1	235	3.8		2.4		3.0
19	280	5.2	235	3.4		2.1		3.0
20	258	5.0	250	3.0		1.8		3.1
21	258	4.6				1.5		3.1
22	256	4.2				1.2		3.1
23	265	4.0				1.1		3.0

Length of time sweep: 16 Mc to 0.8 Mc in fifteen minutes.

Table 3 (Provisional data)

Reykjavik, Iceland (64.1°N, 21.7°W) June 194[illegible]

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	230	4.6						3.0
01	270	4.5						2.9
02	270	4.2						3.0
03	270	4.7						2.9
04	230	4.3	240	3.3				2.9
05	300	4.4	220	3.5				3.1
06	300	4.6	200	3.8	100	2.6		3.0
07	310	5.0	200	4.1	100	2.8		3.0
08	290	5.1	200	4.2	100	2.9		3.0
09	350	5.1	200	4.3	180	3.1		2.9
10	350	5.3	190	4.3	100	3.3		2.9
11	340	5.5	190	4.5	100	3.3		3.0
12	340	5.6	200	4.5	180	3.4		2.9
13	350	5.5	190	4.5	180	3.3		2.9
14	350	5.5	190	4.5	100	3.3		3.0
15	350	5.6	200	4.4	100	3.2		2.9
16	320	5.6	200	4.3	100	3.2		3.0
17	300	5.5	200	4.2	100	2.9		3.1
18	300	5.5	200	4.1	180	2.7		3.0
19	270	5.5	210	3.8	180	2.4		3.2
20	240	5.3	230	3.6	100	2.4		3.1
21	250	5.0						3.0
22	260	5.2						3.2
23	250	4.7						2.9

Time: 15°W.
Length of time sweep: 2 Mc to 16 Mc in one minute.
Median values.

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		4.7						2.8
01		4.7						2.9
02		4.7						2.9
03		4.4						2.8
04		4.5						3.0
05		4.5						2.9
06		4.8						2.9
07		4.8						2.7
08		4.9						2.8
09		5.2						2.8
10		5.4						2.9
11		5.5						2.9
12		5.5						2.9
13		5.6						2.8
14		5.6						2.8
15		5.6						2.8
16		5.7						2.9
17		5.9						2.9
18		6.7						2.9
19		5.6						2.9
20		6.1						2.9
21		5.0						3.0
22		5.0						3.0
23		4.7						3.0

Time: 90°W.
Length of time sweep: 2 Mc to 16 Mc in one minute.
Median values.

Table 5 (Provisional data)

Prince Rupert, Canada (54.4°N, 130.3°W.) June 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		4.9						3.1
01		4.1						3.1
02		3.7						3.0
03		3.7						3.0
04		3.6						3.0
05		4.2						3.0
06		4.7						2.9
07		4.9						2.9
08		5.0						2.9
09		5.3						2.9
10		5.4						2.8
11		5.5						2.9
12		5.7						3.0
13		5.5						3.0
14		5.5						3.0
15		5.5						3.0
16		5.3						3.0
17		5.3						3.1
18		5.3						3.2
19		5.3						3.2
20		5.5						3.3
21		5.6						3.3
22		5.6						3.2
23		5.4						3.2

Median values.
Data from 1200 June 6 to 2300 June 30.

Table 6 (Provisional data)

St. John's, Canada (47.7°N, 52.7°W.) June 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		5.0						3.2
01		4.4						3.2
02		4.0						3.1
03		3.8						3.2
04		3.6						3.2
05		4.2						3.4
06		4.7						3.3
07		5.1						3.4
08		5.4						3.2
09		5.4						3.3
10		5.6						3.3
11		5.5						3.2
12		5.6						3.2
13		5.7						3.2
14		5.8						3.2
15		5.8						3.2
16		5.8						3.2
17		6.0						3.2
18		6.2						3.2
19		6.6						3.4
20		6.6						3.2
21		6.4						3.3
22		5.8						3.1
23		5.4						3.2

Time: 52.5°W.
Median values.

Table 7 (Provisional data)

Ottawa, Canada (45.5°N, 75.8°W) June 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		4.6						2.8
01		3.8						2.8
02		3.5						2.8
03		3.1						2.9
04		3.2						2.9
05		4.1						3.0
06		4.7						3.0
07		5.0						2.9
08		5.4						3.0
09		5.7						2.9
10		5.9						2.9
11		5.7						2.9
12		5.9						2.9
13		5.9						2.9
14		5.9						2.9
15		5.9						2.9
16		6.0						2.9
17		6.2						2.9
18		6.4						3.0
19		6.7						3.0
20		6.6						3.0
21		6.2						3.0
22		5.4						2.9
23		4.9						2.9

Time: 75°W.
Length of time sweep: 1.93 Mc to 13.5 Mc. Manual operation.
Median values.

Table 8 (Provisional data)

Boston, Massachusetts (42.4°N, 71.2°W) June 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		4.4						2.9
01		3.9						2.9
02		3.5						2.9
03		3.0						2.9
04		3.1						3.0
05		4.1						3.2
06		4.5						3.1
07		4.8						3.0
08		5.3						2.9
09		5.6						3.0
10		5.7						2.9
11		5.8						3.0
12		5.8						2.9
13		5.9						3.0
14		6.0						3.0
15		5.8						2.9
16		6.0						3.0
17		6.2						3.0
18		6.4						3.0
19		6.5						3.0
20		6.4						3.0
21		5.8						2.9
22		5.0						2.9
23		4.7						2.9

Time: 75°W.
Median values.

Table 9 (Provisional data)

San Francisco, Calif. (37.4°N, 122.2°W) June 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		4.5						2.8
01		4.4						2.8
02		4.3						2.8
03		4.2						2.9
04		3.9						2.8
05		4.0						2.9
06		4.8						2.9
07		5.6						2.8
08		6.2						2.9
09		6.4						3.1
10		6.5						2.9
11		6.4						2.9
12		7.0						2.9
13		6.9						2.9
14		6.9						3.0
15		6.8						3.0
16		6.7						3.0
17		6.5						3.0
18		6.6						3.1
19		6.7						3.2
20		6.6						3.2
21		6.0						3.1
22		5.4						3.0
23		4.8						2.9

Time: 120°W.
Length of time sweep: 0.8 Mc to 12 Mc in six minutes. Record centered on the hour.
Median values.

Table 10 (Provisional data)

Maui, Hawaii (20.8°N, 156.5°W) June 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	290	7.0						2.9
01	270	6.6						3.0
02	250	6.7						3.2
03	260	6.1						3.1
04	250	5.3						3.1
05	260	5.1						3.2
06	240	5.0						3.1
07	250	6.8	220		115	2.5		3.0
08	330	6.4	200	4.6	110	3.0		2.9
09	395	7.3	195	4.9	110	3.4		2.7
10	400	7.7	190	4.9	110	3.5		2.6
11	420	8.3	190	5.0	110	3.6		2.5
12	395	9.2	200	5.0	110	3.7		2.6
13	375	9.6	200	5.0	110	3.8		2.8
14	350	10.0	200	4.9	105	3.7		2.8
15	330	10.7	200	4.8	110	3.6		2.8
16	325	10.6	210	4.7	110	3.3		2.9
17	295	11.2	210	4.4	110	2.9		3.0
18	260	11.2	220	4.0	115			3.1
19	245	10.0						3.1
20	245	9.2						3.0
21	250	8.2						3.0
22	260	7.6						2.9
23	280	7.4						2.8

Time: 150°W.
Length of time sweep: 2 Mc to 16 Mc in one minute.
Median values.

Table 11 (Provisional data)

Huancayo, Peru (12.0°S, 75.3°W) June 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		5.4						3.2
01		4.8						3.2
02		4.8						3.2
03		4.2						3.2
04		3.5						3.2
05		3.0						3.2
06		3.5						3.0
07		5.8						3.1
08		7.2						2.9
09		7.4						2.7
10		7.1						2.6
11		6.9						2.5
12		6.9						2.5
13		6.9						2.5
14		6.8						2.5
15		7.1						2.4
16		7.2						2.6
17		7.4						2.7
18		7.3						2.8
19		6.7						2.8
20		6.8						2.8
21		7.0						3.0
22		6.4						3.2
23		5.6						3.2

Time: 75°W.
Length of time sweep: 16 Mc to 0.5 Mc in fifteen minutes.
Median values.

Table 12 (Provisional data)

Burghead, Scotland (57.7°N, 3.5°W) May 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		4.5						
01		3.1						
02		3.7						
03		3.6						
04		3.6						
05		4.0						
06		4.5						
07		4.7						
08		5.1						
09		5.3						
10		5.5						
11		5.6						
12		5.5						
13		5.5						
14		5.5						
15		5.6						
16		5.7						
17		5.8						
18		5.9						
19		5.9						
20		5.9						
21		6.0						
22		5.6						
23		4.9						

Time: 0°
Average values.

Table 13 (Provisional data)

[illegible] (51.[illegible], 0.5°E) May 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		4.4						2.7
01		4.1						2.7
02		3.9						2.7
03		[illegible].4						2.7
04		3.7						2.8
05		4.7						2.9
06		4.6						3.0
07		5.1						2.9
08		[illegible]						2.9
09		5.7						3.0
10		[illegible]						3.0
11		5.7						2.9
12		[illegible]						2.9
13		[illegible].7						2.8
14		[illegible].9						2.9
15		[illegible]						2.9
16		6.0						2.9
17		[illegible].2						2.9
18		6.2						2.9
19		[illegible]						3.0
20		[illegible]						3.0
21		[illegible].3						2.9
22		[illegible].3						2.8
23		5.0						2.8

Time: 0°
Length of time sweep: Manual operation.
[illegible]

Table 14 (Provisional data)

Colombo, Ceylon (6.6°N, 80°E) May 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		5.6						3.5
01		4.5						3.5
02		3.9						3.5
03		3.9						3.5
04								3.5
05								3.3
06		4.3						3.0
07		7.3						2.8
08		5.6						2.7
09		[illegible]						2.6
10		[illegible]						2.7
11		8.1						2.7
12		8.0						2.7
13		8.0						2.8
14		8.2						2.9
15		8.7						3.1
16		9.1						3.2
17		[illegible]						[illegible]
18		9.7						[illegible]
19		9.4						3.5
20		8.6						3.3
21		7.3						3.5
22		6.4						3.5
23		5.4						3.5

Average values.

Table 15 (Provisional data)

Cape York, Q., Australia (11.0°S, 142.4°E) May 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		3.6						3.2
01		3.4						3.2
02		3.2						3.3
03		2.9						3.3
04		2.6						3.1
05		2.8						3.0
06		4.0						3.3
07		6.6						3.4
08		8.2						3.4
09		8.3						3.4
10		8.0						3.3
11		8.4						3.2
12		8.7						3.2
13		8.6						3.2
14		[illegible].4						3.2
15		8.4						3.2
16		8.6						3.2
17		8.5						3.3
18		7.6						3.2
19		6.6						3.2
20		5.4						3.2
21		4.5						3.1
22		3.9						3.1
23		3.7						3.2

Time: Local.
Average values.

Table 16 (Provisional data)

Watheroo, W. Australia (30.3°S, 115.9°E) May 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		3.8						3.0
01		3.9						3.0
02		3.9						3.1
03		3.9						3.1
04		4.0						3.2
05		3.4						3.1
06		3.4						3.2
07		5.2						3.3
08		6.2						3.5
09		6.7						3.4
10		7.2						3.4
11		7.4						3.4
12		7.1						3.3
13		7.6						3.3
14		7.7						3.3
15		7.5						3.4
16		6.7						3.5
17		5.7						3.4
18		4.5						3.3
19		3.4						3.2
20		3.2						3.2
21		3.2						3.0
22		3.4						3.0
23		3.6						3.0

Time: Local
Length of time sweep: 16 Mc to 0.5 Mc in fifteen minutes.
Average values.

Table 17 (Provisional data)

Simonstown, Union of S. Africa (33.9°S, 18.7°E) May 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		2.8						2.9
01		2.9						2.8
02		2.9						2.9
03		3.1						2.9
04		3.0						2.9
05		3.0						2.9
06		2.9						2.9
07		3.1						3.0
08		5.0						3.3
09		6.0						3.2
10		6.8						3.2
11		7.2						3.1
12		7.3						3.1
13		7.6						3.0
14		8.2						3.0
15		8.5						3.0
16		7.9						3.1
17		7.0						3.2
18		5.6						3.2
19		3.6						3.1
20		3.2						3.1
21		2.9						3.1
22		2.8						3.0
23		2.7						2.9

Time: 15°E.
Length of time sweep: 2 Mc to 16 Mc in one minute.
Average values.

Table 18 (Provisional data)

Mt. Stromlo, N.S.W., Australia (35.3°S, 149.0°E) May 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		3.7						2.9
01		3.8						3.0
02		3.8						3.0
03		3.9						3.0
04		3.9						3.0
05		3.5						2.9
06		3.1						3.1
07		4.8						3.2
08		5.8						3.2
09		6.6						3.2
10		6.9						3.2
11		7.1						3.2
12		6.9						3.2
13		7.0						3.2
14		7.6						3.2
15		7.6						3.2
16		6.9						3.2
17		5.9						3.1
18		5.0						3.1
19		4.3						3.1
20		4.1						3.2
21		3.9						3.1
22		3.7						3.0
23		3.7						2.9

Time: Local.
Length of time sweep: 1.8 Mc to 12.5 Mc in two minutes.
Average values.

Table 19 (Provisional data)

Campbell I. (52.5°S, 169.0°E) May 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00								
01								
02								
03								
04								
05		2.4						2.9
06								
07		3.3						3.1
08								
09		5.3						3.4
10								
11		6.2						3.4
12		6.5						3.4
13		6.4						3.4
14		6.5						3.3
15		6.4						3.3
16		6.1						3.3
17		5.4						3.2
18		4.5						3.0
19		3.9						2.9
20								
21		3.4						2.8
22								
23		3.1						2.8

Time: 165°E.
Average values.

Table 20 (Provisional data)

Delhi, India (28.6°N, 77.2°E) April 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		4.4						
01		4.2						
02		3.8						
03		3.9						
04		3.3						
05		3.4						
06		5.7						
07		6.9						
08		8.9						
09		7.5						
10		8.7						
11		10.0						
12		11.2						
13		11.8						
14		12.0						
15		12.0						
16		11.8						
17		11.0						
18		10.4						
19		8.3						
20		6.5						
21		5.0						
22		4.7						
23		4.5						

Time: 75°E.
Average values.

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00								
01								
02		[illegible]						
03								
04		4.0						
05		[illegible]						
06		4.3						
07		7.5						
08		9.4						
09		9.6						
10		9.2						
11		8.5						
12		8.6						
13		8.9						
14		9.2						
15		9.6						
16		[illegible]						
17		10.0						
18		10.2						
19		9.9						
20		9.3						
21		9.2						
22		9.2						
23		9.0						

Average values.

00	260	4.4					[illegible]	[illegible]
01	260	4.7					[illegible]	[illegible]
02	260	[illegible]					[illegible]	[illegible]
03	260	[illegible]					[illegible]	[illegible]
04	250	3.4					[illegible]	[illegible]
05	[illegible]	[illegible]			[illegible]		[illegible]	[illegible]
06	270	4.5	240	3.6	110	2.5	[illegible]	[illegible]
07	360	5.0	230	4.1	110	3.2	[illegible]	[illegible]
08	340	5.4	220	4.3	110	3.3	5.2	3.0
09	340	5.6	210	4.5	110	3.4	5.0	3.0
10	370	5.7	210	4.5	110	3.6	4.5	2.9
11	360	6.0	200	4.7	110	3.5	4.4	2.9
12	380	5.9	200	4.7	110	3.6	4.6	2.8
13	380	5.6	220	4.6	110	3.6	4.2	2.9
14	360	5.9	220	4.6	110	3.5	4.3	2.9
15	360	5.9	220	4.4	110	3.5	4.1	2.9
16	340	6.0	220	4.3	110	3.4	4.4	2.9
17	320	6.3	240	4.1	110	3.3	4.2	3.0
18	300	6.4	240	[illegible]	120	2.8	4.2	3.0
19	260	6.4	240		120		4.1	3.1
20	240	6.6					3.4	3.1
21	240	5.8					3.9	3.1
22	260	5.3					[illegible]	[illegible]
23	270	4.8					3.4	2.9

Time: 75°W.
Length of time sweep: 0.3 Mc to 14 Mc in two minutes.
Median values.

Table 23

(Additions and corrections to previously published provisional data)

Fairbanks, Alaska (64.9°N, 147.8°W) May 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00					-		3.8	
01					-		3.7	
02					-		3.5	2.8
03					-		3.8	
04					-		3.5	
05		4.2			-		3.5	
06					-		3.4	
07					-		3.2	
08					-		3.1	
09	450				-		3.2	
10					-		3.2	
11					-		3.2	
12					-		3.1	
13					-		3.1	
14					-		3.0	
15	392				-		3.0	
16					-		2.8	
17				3.8	-		3.0	
18					-		3.1	
19					-		3.1	
20	255				-		3.5	
21					-		3.0	
22					-		3.0	
23					-		3.6	

Time: 150°W.
Length of time sweep: 16 Mc to 0.5 Mc in fifteen minutes.
Median values.

Table 24

(Additions and corrections to previously published provisional data)

Churchill, Canada (58.8°N, 94.2°W) May 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	290						6.6	
01	290	4.2					5.1	
02	295						4.0	2.8
03	310	3.8					3.8	
04	300						3.5	
05	320	3.8	240	3.5	140	3.2	3.6	
06	390	4.1	250	3.7	130	3.2	3.8	
07	410	4.3	260	3.8	130	3.2	4.1	
08	490		240	4.0	125	3.2	4.3	
09	455		240	4.2	120	3.2	3.8	
10	435		240	4.2	120	3.3	3.6	2.8
11	450		230	4.3	120	[illegible]		
12	410		230	4.3	120	[illegible]		
13	[illegible]	[illegible]	230	4.3	120	[illegible]		
14	395		230	4.3	130	[illegible]		
15	390		235	4.2	130	[illegible]		
16	350		240	4.1	130	3.0		
17	350	5.6	245	4.0	140	3.0		
18	340		250	3.8	140	2.9		
19	340	5.0	260	3.5	140	3.0	3.4	
20	290						4.2	
21	300						[illegible]	
22	290						8.2	
23	295						[illegible]	

Time: 90°W.
Length of time sweep: 2 Mc to 16 Mc in one minute.
Median values.

Table 25

(Additions and corrections to previously published provisional data)

St. John's, Newfoundland (47.7°N, 52.7°W) May 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	240							3.2
01	250							3.2
02	260							3.2
03	250							3.2
04	265						1.8	3.3
05	235	3.4	215	1.5	115	1.6	1.6	3.4
06	220		220	3.2	100	2.2		3.4
07	245	4.6	210	3.6	100	2.5		3.4
08	300		200	4.1	100	2.8		3.3
09	320		190	4.3	100	3.0		3.1
10	310		195	4.4	100	3.2		3.2
11	310		190	4.5	95	3.2		3.2
12	320		190	4.6	95	3.3		3.2
13	315		190	4.5	95	3.3		3.2
14	330		190	4.5	100	3.2		3.2
15	310		200	4.3	100	3.1		3.2
16	300		200	4.2	100	3.0		3.2
17	290		210	3.9	100	2.8		3.2
18	250		250	3.6	100	2.4		3.3
19	225				100	2.0		3.4
20	220				110	1.8		3.3
21	220							3.4
22	230							3.3
23	240							3.3

Time: 52.5°W.
Median values.

Table 26

(Additions and corrections to previously published provisional data)

Ottawa, Canada (45.5°N, 75.8°W) May 1945

Time	n'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	290							
01	320							
02	320							
03	320						3.0	
04	320							
05	250						2.9	
06	230		225	3.5	125	2.4	4.2	3.0
07	300		220	4.0	120	2.6	4.8	
08	340		210	4.3	110	2.9	5.2	
09	340		200	4.4	110	3.0	5.4	
10	335	5.4	190	4.5	110	3.2	5.5	
11	360		190	4.6	110	3.3	5.5	
12	365	5.6	190	4.6	110	3.3	5.5	
13	350		200	4.6	110	3.2	5.4	
14	350	5.6	210	4.5	110	3.2	5.5	
15	340		210	4.4	110	3.1	5.2	
16	310	6.0	210	4.2	110	2.9	5.0	
17	300		220	4.0	110	2.7	4.2	
18	270		220	3.5	120	2.5	4.0	
19	240				130		3.6	
20	240						2.8	
21	250							
22	255							
23	280							

Time: 75°W.
Length of time sweep: 1.93 Mc to 13.5 Mc. Manual operation.

Table 27

(Additions and corrections to previously published provisional data)

Boston, Massachusetts (42.4°N, 71.2°W) May 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	270							
01	268						1.0	
02	265						1.2	
03	260						1.2	
04	275	2.3					1.4	
05	250				122	1.8	1.9	
06	323	4.2	230	3.6	120	2.2	2.6	
07	352	4.6	230	3.9	115	2.6	2.9	
08	350	4.9	230	4.1	115	2.9	3.2	
09	370	5.4	225	4.3	120	2.9	3.2	
10	370		215	4.5	120	3.0	3.2	
11	365		220	4.5	120	3.0	3.5	
12	370	5.6	230	4.5	120	3.1		
13	380	5.8	230	4.5	120	3.1		
14	370		235	4.4	120	3.0		
15	345	5.8	235	4.2	120	3.0		
16	326	5.8	230	4.0	120	2.8	2.9	
17	302		240	3.7	120	2.5	2.8	3.0
18	275	6.2	242		130	2.0	3.0	
19	250				130		3.0	
20	250						2.7	
21	250						2.6	
22	256						1.4	
23	265	3.9					-	

Time: 75°W.
Median values.

Table 28

(Additions and corrections to previously published provisional data)

San Francisco, Calif. (37.4°N, 122.2°W) May 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	300						3.2	
01	300						3.1	
02	290						2.6	
03	290						3.1	
04	290						2.8	
05	290	3.8					2.8	
06	320	4.4	245	3.4	120	2.2	3.0	
07	370	5.0	240	3.9	120	2.5	3.3	
08	365	5.7	220	4.2	120	2.9	4.0	
09	370		220	4.3	120	3.1	4.0	
10	370		220	4.4	110	3.3	4.3	
11	385		215	4.4	110	3.3	4.2	
12	380		220	4.4	110	3.4	3.9	
13	385		220	4.4	110	3.4	3.6	
14	360		220	4.5	110	3.4	4.0	
15	340		225	4.3	110	3.2		
16	340		230	4.2	110	3.0	3.8	
17	310		240	3.9	120	2.7	3.4	3.1
18	280		240	3.5	120	2.2	3.5	
19	250						2.9	
20	240	5.9					3.5	
21	250	5.0					3.5	
22	270						3.3	
23	290						3.6	

Time: 120°W.
Length of time sweep: 0.8 Mc to 12 Mc in six minutes. Record centered on the hour.

Median values.

Table 29

(Additions and corrections to previously published provisional data)

Baton Rouge, Louisiana (30.5°N, 91.2°W) May 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	300	3.6						
01	300							
02	290							
03	290							
04	290							
05	270							
06	260							
07	290		240	3.8	130	2.5		3.3
08	320		240	4.4	120	2.9		
09	370		220	4.4	120	3.0		2.9
10	370		220	4.6	120	3.3		
11	365	6.2	220	4.6	120	3.4		
12	370		235	4.6	120	3.4		
13	360		240	4.6	120	3.4		
14	350		240	4.6	120	3.3		
15	340	7.6	250	4.5	120	3.3		
16	330		250	4.4	120	3.0		
17	310	9.6	240	3.9	130	2.5	3.8	
18	275						3.8	
19	250	7.4					3.6	
20	240						3.2	
21	265						3.3	
22	290						3.2	
23	300	3.6						

Time: 90°W.
Length of time sweep: 1.9 Mc to 9.8 Mc in three minutes thirty seconds.
Median values.

Table 30

(Additions and corrections to previously published provisional data)

Maui, Hawaii (20.8°N, 156.5°W) May 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00								
01	255							
02								
03								
04								
05	255							3.1
06		4.4						
07				4.5		2.4	3.6	
08							4.0	
09							4.0	
10	350	8.3						
11		9.6						
12								
13							3.9	3.0
14	305						4.4	
15								
16							4.5	
17		10.6	210				4.4	
18		10.3					3.8	
19							3.4	
20		8.2					3.7	
21							3.4	
22	265						3.0	
23		6.2					3.2	

Time: 150°W.
Length of time sweep: 2 Mc to 16 Mc in one minute.
Median values.

Table 31

(Additions and corrections to previously published provisional data)

San Juan, Puerto Rico (18.4°N, 66.1°W) May 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		5.8						2.8
01		5.9						2.9
02		4.8						3.0
03		4.0						2.9
04		4.1						2.9
05		4.0						3.0
06		4.4						3.2
07	280	5.8					3.9	3.3
08	300	6.1	220	3.9		2.9	3.7	3.2
09	320	6.8	220	4.4		3.1	4.4	3.0
10	350	6.6	220	4.5		3.4	4.2	2.8
11	350	7.8	220	4.7		3.5	4.6	2.8
12	335	8.7	230	4.7		3.5	4.5	2.8
13	315	9.5	230	4.7		3.5		2.8
14	300	9.2	235	4.6		3.5	4.4	2.9
15	300	9.0	230	4.4		3.3	4.7	2.9
16	300	10.1	210	4.2		3.1	4.7	2.9
17	290	9.6	240	3.9			4.3	3.1
18	280	8.8		3.2			3.2	3.0
19	250	7.4					3.4	3.2
20		6.3						3.1
21		5.4						3.0
22		6.7						2.8
23		5.5						2.8

Time: 60°W.
Length of time sweep: Record centered on the hour.
Median values.

Table 32

(Additions and corrections to previously published provisional data)

Christmas I. (2.0°N, 157°W) May 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00							1.6	3.1
01							2.1	3.2
02							1.4	3.2
03								3.3
04								3.4
05	220							3.4
06							1.7	3.2
07							2.8	
08							3.2	
09	275						3.4	2.7
10							3.9	2.8
11							5.1	
12							6.5	
13							5.5	2.5
14							4.5	
15							3.8	
16							4.2	2.6
17							4.4	2.7
18							3.8	2.7
19							3.2	2.7
20							2.0	
21							1.7	2.7
22							2.6	
23	•						1.7	

Time: 150°W.
Length of time sweep: Automatic equipment.
Median values.

Table 33

(Additions and corrections to previously published provisional data)

Huancayo, Peru (12.0°S, 75.3°W) May 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	220	5.9						3.3
01	230	5.1						3.3
02	230	4.4						3.2
03	240	3.5						3.2
04	250	3.2						3.2
05	270	2.8						3.2
06	270	3.4				1.3	2.3	3.1
07	240	6.0				2.3	3.3	3.1
08	260	7.7	225	4.3		2.3	4.8	2.9
09	320	8.2	220	4.5		3.3	5.4	2.7
10	340	8.1	220	4.6		3.4	5.5	2.6
11	350	7.7	220	4.6		3.5	5.5	2.6
12	360	7.4	210	4.6		3.5	5.5	2.5
13	360	7.7	200	4.6		3.5	5.5	2.5
14	330	7.8	200	4.5		3.4	5.5	2.5
15	300	7.9	210	4.4		3.0	5.5	2.6
16	230	7.8				2.6	4.3	2.6
17	255	7.8				2.0	3.1	2.7
18	270	7.7				0.9		2.7
19	280	7.2						2.8
20	275	7.3						2.8
21	240	7.3						3.1
22	230	6.9						3.2
23	230	6.0						3.2

Time: 75°W.
Length of time sweep: 16 Mc to 0.5 Mc in fifteen minutes.
Median values.

Table 34

(Additions and corrections to previously published provisional data)

Rarotonga I. (21.4°S, 159.8°W) May 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00								
01		3.7						3.0
02								
03		3.2						3.1
04								
05		2.8						3.0
06								
07	243	5.5						3.3
08								
09	253	9.0	211	4.2		2.8		3.4
10								
11	268	8.0	221	4.5		3.2		3.4
12	273	8.1	226	4.6		3.2		3.4
13	275	8.0	231	4.6		3.1		3.3
14								
15	270	7.4	219	4.3		3.0		3.3
16								
17	246	7.9						3.4
18								
19		5.6						3.3
20								
21		4.1						3.1
22								
23		3.5						3.0

Time: 157.5°W.
Average values.

Table 35

(Additions and corrections to previously published provisional data)

Pitcairn I. (25.0°S, 130.0°W) May 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00								
01	266	3.4						
02								
03								
04	290	2.7						
05								
06	237	6.7	206	2.7				
07								
08	245	8.8	213	4.1				
09								
10	249	8.2	209	4.4				
11								
12	247	7.6	200	4.3				
13								
14	242	7.5	205	3.7				
15								
16								
17								
18	245	4.4						
19								
20								
21	271	3.6						
22								
23								

Time: 150°W.
Length of time sweep: Manual operation.
Average values.

Table 36

(Additions and corrections to previously published provisional data)

Brisbane, Q., Australia (27.5°S, 153.0°E) May 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	269	3.96						3.1
01	268	4.02						3.1
02	258	3.99						3.1
03	260	4.15						3.2
04	264	3.94						3.3
05	253	3.50						3.2
06	238	3.73						3.3
07	215	5.79						3.6
08	222	6.52						3.6
09	222	7.02	222		111	2.80		3.5
10	244	7.42	212	4.46	111	3.02		3.5
11	240	7.30	203	4.50	110	3.12		3.5
12	266	6.89	200	4.59	108	3.13		3.3
13	253	7.16	202	4.49	108	3.05		3.4
14	250	7.56	204	4.30	109	2.87		3.4
15	237	7.47	204	3.84		2.66		3.4
16	224	6.98						3.5
17	214	6.05						3.5
18	224	4.99						3.4
19	249	4.09						3.2
20	259	4.01						3.1
21	256	4.01						3.1
22	260	3.96						3.1
23	268	3.84						3.0

Time: 150°E.
Length of time sweep: 2.2 Mc to 12.6 Mc in two minutes, thirty seconds.
Average values.

Table 37

(Additions and corrections to previously published provisional data)

Kermadec Is. (29.2°S, 177.9°W) May 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fMs	F2-M3000
00	279	3.96						3.0
01	279	3.99						3.0
02	276	3.99						3.0
03	273	3.98						3.0
04	261	4.03						3.1
05	266	3.67						3.0
06	265	3.95						3.1
07	237	6.05				1.61		3.4
08	245	6.64	237	3.71	119	2.28		3.4
09	259	6.95	234	3.99	118	2.69		3.4
10	268	7.22	232	4.23	116	2.81		3.4
11	264	6.78	226	4.32	116	3.03		3.4
12	277	6.43	226	4.30	115	3.13		3.4
13	276	6.83	220	4.32	114	3.09		3.3
14	268	7.09	224	4.18	115	2.94		3.3
15	260	6.76	233	3.80	115	2.70		3.3
16	250	6.34	232	3.45	117	2.26		3.3
17	235	5.81				1.83		3.3
18	238	5.08						3.2
19	246	4.44						3.1
20	261	4.30						3.1
21	265	3.92						3.1
22	273	3.88						3.0
23	281	3.92						3.0

Time: 180°E.
Average values.

Table 38

(Additions and corrections to previously published provisional data)

Christchurch, N.Z. (43.5°S, 172.6°E) May 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fMs	F2-M3000
00	265	3.3					2.7	
01	270	3.2					2.8	
02	260	2.9					2.1	
03	260	3.0					1.5	
04	255	2.6					1.8	
05	240	2.4					2.2	
06	250	2.3					2.6	
07	240	3.5					2.7	
08	230	5.4			100	2.1	2.8	
09	240	6.0	220	3.4	100	2.4	3.0	
10	240	6.0	220	3.3	100	2.6	3.4	
11	250	6.5	220	4.0	100	2.7	3.0	
12	250	6.6	220	4.0	100	2.8	3.1	
13	250	6.6	230	4.0	100	2.7	3.0	
14	250	6.6	230	4.0	100	2.6	3.0	
15	240	6.4	230	3.4	100	2.4	2.8	
16	230	6.1	220	2.7	100	2.0	2.6	
17	220	5.2					2.1	
18	240	4.2					2.1	
19	240	3.9					2.9	
20	250	3.8					2.7	
21	250	3.6					2.5	
22	255	3.4					2.0	
23	250	3.1					2.7	

Time: 172.5°E.
Length of time sweep: 2.5 Mc to 12 Mc in two minutes.
Median values.

Table 39

(Corrections to previously published provisional data)

Burghead, Scotland (57.7°N, 3.5°W) April 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fMs	F2-M3000
00		3.3						
01		3.0						
02		2.9						
03		2.9						
04		2.7						
05								
06								
07		4.1						
08		4.5						
09		4.7						
10		5.0						
11		5.2						
12		5.1						
13		5.8						
14		5.7						
15		5.6						
16		5.6						
17		5.8						
18		5.6						
19		5.6						
20								
21		4.9						
22		4.3						
23		3.7						

Time: 0°.
Median values.

Table 40

Slough, England (51.5°N, 0.6°W) April 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fMs	F2-M3000
00		3.6						
01		3.4						
02		3.2						
03		3.0						
04		2.8						
05		3.1						
06		3.9						
07		4.4						
08		4.9						
09		5.2						
10		5.6						
11		5.6						
12		5.4						
13		5.8						
14		5.9						
15		5.8						
16		6.0						
17		6.0						
18		6.0						
19		6.4						
20		5.7						
21		4.7						
22		3.9						
23		3.6						

Time: 0°.
Median values.

Table 41

(Additions and corrections to previously published provisional data)

Cape York, Q., Australia (11.0°S, 142.4°E) April 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	245	4.79						3.0
01	245	4.50						3.2
02	222	4.35						3.4
03	218	3.19						3.4
04	244	2.55						3.1
05	268	2.54						2.9
06	272	2.73						3.0
07	244	5.88						3.3
08	256	7.80	237	4.12	102	2.53		3.3
09	272	9.16	228	4.43	102	3.10		3.3
10	270	9.77	215	4.64		3.27		3.4
11	274	9.71	213	4.74	104	3.48		3.4
12	292	9.30	203	4.79	104	3.53		3.1
13	301	9.60	212	4.90	106	3.50		3.1
14	294	9.58	215	4.71	104	3.42		3.1
15	293	9.92	213	4.82	107	3.30		3.0
16	289	10.20	225	4.26	105	3.08		3.1
17	261	10.15			106	2.54		3.2
18	239	9.69						3.3
19	232	8.42						3.2
20	233	7.05						2.9
21	232	5.75						3.0
22	243	4.95						2.9
23	252	4.77						3.0

Time: 150°E.
Average values.

Table 42

(Corrections to previously published provisional data)

Simonstown, Union of S. Africa (33.9°S, 18.7°E) April 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		3.0						
01								
02								
03								
04								
05								2.9
06								
07		3.7						
08		5.9						3.3
09								3.2
10								
11								
12		8.2						
13								
14		9.7						
15		9.4						
16		9.0						
17		8.2						
18		7.0						
19								
20		3.6						
21								
22		3.2						3.1
23		3.0						

Time: 15°E.
Length of time sweep: 2 Mc to 16 Mc in one minute.
Median values.

Table 43

Sverdlovsk, U.S.S.R. (56.7°N, 61.1°E) March 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	280	2.7						
01	280	2.8						
02	280	2.7						
03	270	2.7						
04	270	2.7						
05	280	2.7						
06	240	3.1			140	1.8		
07	210	4.0			120	1.8		
08	230	4.8	200	3.6	110	2.2		
09	240	5.4	200	3.7	105	2.5		
10	235	5.6	190	3.9	105	2.7		
11	225	6.1	185	4.0	100	2.8		
12	225	6.0	185	4.0	100	2.8		
13	220	6.1	190	3.8	100	2.8		
14	220	6.1	190	3.7	105	2.7		
15	200	6.0			110	2.5		
16	200	5.7			110	2.2		
17	200	5.2			120	1.9		
18	200	4.9			130	1.7		
19	210	4.6						
20	215	3.8						
21	230	3.3						
22	240	3.0						
23	260	2.9						

Time: 60°E.
Median f°F2. Average others.

Table 44

Tomsk, U.S.S.R. (56.5°N, 85.2°E) March 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	300	2.8						
01	300	2.3						
02	300	2.7						
03	310	2.7						
04	300	2.8						
05	300	2.6						
06	290	2.8						
07	250	3.8			120	1.6		
08	240	4.7			110	1.9		
09	300	5.4	240		100	2.3		
10	320	6.1	240	3.9	110	2.6		
11	320	6.5	230	4.3	110	2.7		
12	320	6.7	230	4.1	110	2.8		
13	290	6.7	230	4.0	100	2.5		
14	280	6.7	230	3.8	110	2.7		
15	230	6.4	230	3.8	110	2.6		
16	260	6.2	240	3.6	110	2.4		
17	250	5.9			110	2.0		
18	240	5.5			110	1.6		
19	240	5.1						
20	260	4.5						
21	270	3.9						
22	280	3.3						
23	290	3.1						

Time: 90°E.
Average values.

Table 45

Moscow, U.S.S.R. (55.8°N, 37.6°E) March 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		2.8						
01		2.8						
02		2.8						
03		2.8						
04		2.8						
05		2.9						
06		3.5						
07		4.4						
08		4.9						
09		5.5						
10		5.7						
11		5.9						
12		6.8						
13		6.0						
14		6.0						
15		5.7						
16		5.6						
17		5.5						
18		5.3						
19		4.7						
20		4.2						
21		3.7						
22		2.7						
23		3.1						

Time: 30°E.
Average values.

Table 46

(Corrections to previously published provisional data)

Simonstown, Union of S. Africa (34.2°S, 18.4°E) March 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		3.4						
01		3.3						3.1
02								3.1
03		3.2						
04		3.2						
05		3.0						3.2
06		3.0						
07		4.5						
08								
09		6.3						3.2
10		7.0						3.0
11		7.6						
12		8.3						
13		8.4						3.0
14								
15								
16		8.7						3.1
17		8.2						3.2
18		7.4						
19		6.6						
20								
21		4.3						
22		3.3						
23		3.4						3.2

Time: 15°E.
Length of time sweep: 2 Mc to 16 Mc in one minute.
Median values.

Table 47

Tykhi Bay, U.S.S.R. (80.3°N, 52.8°E) February 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	240	3.7			110	2.3		
01	240	4.0			100	2.4		
02								
03								
04								
05								
06								
07								
08								
09								
10	270	4.2			110	2.2		
11								
12	240	4.3			110	2.1		
13								
14	250	4.4			110	2.2		
15								
16								
17								
18								
19	240	4.7			100	4.0		
20								
21								
22	230	4.4			110	2.3		
23								

Time: 60°E.
Average values.

Table 48

Sverdlovsk, U.S.S.R. (56.7°N, 61.1°E) February 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	270	2.8						
01	280	2.9						
02	270	2.9						
03	270	3.0						
04	270	2.9						
05	270	2.7						
06	260	2.5						
07	240	3.2						
08	210	4.7			140	1.8		
09	210	5.6			125	2.1		
10	210	6.4			120	2.4		
11	210	6.5			120	2.5		
12	210	6.6			120	2.6		
13	210	6.6			120	2.5		
14	210	6.8			120	2.4		
15	210	6.4			120	2.2		
16	210	5.9			130	1.9		
17	210	5.0				1.7		
18	210	4.3						
19	220	3.6						
20	240	2.8						
21	250	2.8						
22	260	2.7						
23	280	2.7						

Time: 60°E.
Median f°F2. Average others.

Table 49

Tomsk, U.S.S.R. (56.5°N, 85.2°E) February 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	300	2.9						
01	300	3.0						
02	310	3.0						
03	310	3.0						
04	300	2.9						
05	300	2.9						
06	280	2.3						
07	280	2.3						
08	250	4.2				1.5		
09	250	5.4			100	1.9		
10	250	6.1			110	2.2		
11	250	6.5	240		100	2.4		
12	260	6.7	230		100	2.6		
13	260	6.9	240		110	2.6		
14	260	7.0	230		110	2.4		
15	240	6.7	240		110	2.3		
16	240	6.2			120	2.1		
17	230	5.7				1.7		
18	230	4.9						
19	240	3.8						
20	260	3.2						
21	280	2.8						
22	300	2.9						
23	300	2.9						

Time: 90°E.
Average values.

Table 50

Moscow, U.S.S.R. (55.8°N, 37.6°E) February 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		3.1						
01		3.1						
02		3.1						
03		3.0						
04		2.8						
05		2.7						
06		2.8						
07		4.0						
08		5.0						
09		5.7						
10		6.3						
11		6.4						
12		6.5						
13		6.6						
14		6.4						
15		6.1						
16		5.5						
17		4.9						
18		4.2						
19		3.6						
20		3.0						
21		3.0						
22		2.9						
23		2.9						

Time: 30°E.
Average values.

Table 51

Tykhi Bay, U.S.S.R. (80.3°N, 52.8°E) January 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	250	4.7			110	2.6		
01	260	3.9			100	3.1		
02								
03								
04								
05								
06								
07								
08								
09								
10	280	3.8			110	2.5		
11								
12	300	3.1			110	2.3		
13								
14	290	4.1			110	2.5		
15								
16								
17								
18								
19	260	4.5			110	3.5		
20								
21								
22	250	4.5			100	3.0		
23								

Time: 60°E.
Average values.

Table 52

Tomsk, U.S.S.R. (56.5°N, 85.2°E) January 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	300	2.9						
01	290	2.9						
02	300	2.9						
03	290	2.9						
04	290	2.9						
05	290	2.9						
06	300	2.6						
07	300	2.4						
08	270	2.9						
09	240	4.7				1.6		
10	240	5.6			110	2.0		
11	240	6.2			110	2.1		
12	240	6.6			110	2.3		
13	230	6.7			110	2.3		
14	230	6.5			110	2.1		
15	230	5.8			110	1.8		
16	230	5.3				1.6		
17	240	4.4						
18	250	3.4						
19	280	2.5						
20	320	2.3						
21	340	2.5						
22	300	2.7						
23	300	2.8						

Time: 90°E.
Average values.

Table 53

Moscow, U.S.S.R. (55.8°N, 37.6°E) January 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		3.1						
01		3.1						
02		3.2						
03		3.1						
04		2.9						
05		2.8						
06		2.7						
07		3.0						
08		4.6						
09		5.7						
10		6.2						
11		6.0						
12		6.4						
13		6.8						
14		5.7						
15		5.5						
16		4.7						
17		3.7						
18		2.9						
19		2.5						
20		2.6						
21		2.8						
22		2.7						
23		2.7						

Time: 30°E.
Average values.

TABLE 54

IONOSPHERE DATA-1

RESTRICTED

Washington, D.C. (Location) — Ionosphere Station

National Bureau Of Standards (Institution)

Hourly values of $h'F_2$ in {km / mc} for June (Month) 1945

Records measured by: J.M.C. W.A.T.

TIME: 75° W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	280	280	(280)	(290)	300	[280]A	(280)	340	320	340	330	380	400	C	[340]C	320	320	340	280	260	240	240	260	270
2	260	260	[260]A	280	270	240	220	300	320	330	300	340	380	380	380	360	320	350	280	270	220	260	260	250
3	240	250	240	250	250	250	280	300	320	330	(420)	360	340	340	360	350	280	280	280	270	230	(220)	280	280
4	260	260	280	230	220	(230)	240	270	270	340	340	(320)	320	330	310	340	320	300	280	(240)	[230]A	(280)	260	(240)
5	260	240	(280)	[280]A	250	260	260	(320)	310	300	280	(450)	380	380	320	320	320	310	300	(250)	240K	210K	250K	(320)K
6	310K	(320)K	290K	[310]AK	[300]AK	(260)K	[250]AK	(460)K	420K	850K	410K	520K	(440)K	480K	450K	450K	340	340	300	260	240	240	280	(280)
7	280	[290]A	(260)	(320)	[300]A	280	[270]A	540	570	430	440	360	360	C	C	380	340	300	290	250	230	220	280	280
8	300	240	250	270	270	220	(220)	(500)	(320)	360	[450]C	460	460	[390]A	380	C	C	C	320	280	240	230	250	250
9	240	230	260	260	270	260	380	G	440	330	320	320	400	400	400	400	360	340	310	260	240	240	250	260
10	260	260	240	240	240	260	300	480	(460)	360	360	300	400	440	500	440	370	350	290	280	220	C	C	[270]C
11	270	260	240	240	250	260	250	350	360	340	350	340	330	370	360	380	330	C	C	C	C	C	C	C
12	260	260	260	290	260	240	220	(280)	370	300	370	360	400	350	380	360	340	320	300	260	(220)	(220)	250	(280)
13	250	280	240	220	250	240	240	340	310	390	340	(360)	380	380	360	360	320	300	280	260	[250]C	280	280	300
14	[300]A	280	210	250	250	[260]C	300	300	300	290	(360)	370	350	380	320	340	310	320	280	240	240	240	240	260
15	220	270	260	(240)	250	(230)	(280)	360	380	340	360	460	480	410	430	360	340	340	(320)	260	(240)	240	220	260
16	280	(300)	(280)	(300)	280	240	(260)	380	380	410	340	390	360	390	350	340	330	320	280	240	220	250	280	260
17	250	260	260	270	280	290	[240]A	400	450	400	380	390	370	340	350	340	340	310	320	250	220	220	240	(300)
18	270	240	250	250	240	240	(260)	320	340	420	400	460	480	380	[360]C	380	380	350	290	(250)	(250)	280	(290)	260
19	260	250	260	(280)	240	240	(340)	[310]C	[310]C	420	[380]C	[470]C	[430]A	400	380	420	[360]A	(340)	(300)	280	260	250	250	270
20	280	250	270	240	260	260	300	G	400	340	420	380	420	340	360	370	330	320	300	260	240	250	250	270
21	280	260	250	220	230	240	250	[390]A	350	330	380	360	[390]C	380	400	440	360	[320]A	[310]A	[300]A	(300)	(280)	280	280
22	220	(260)	260	(280)	(300)	(240)	300	[300]A	320	280	320	320	360	C	C	350	350	(310)	[270]A	240	(220)	220	230	250
23	280	280	(280)	(280)	[280]A	250	(310)	[310]A	(340)	[330]A	370	350	380	360	320	350	340	320	290	(240)	(260)	260	(270)	290
24	220	220	240	240	220	260	400	380	320	320	390	390	380	350	380	320	340	320	[300]A	(280)	(230)	(270)	260	260
25	260	280	(230)	240	[250]A	(240)	(270)	(320)	320	290	320	340	380	340	320	330	340	320	260	250	260	(220)	260	260
26	260	220	220	240	220	(220)	220	350	320	340	380	330	360	350	340	340	360	340	300	280	230	240	240	260
27	280	270	260	250	240K	250K	[260]AK	710K	800K	(440)K	400K	[390]AK	560K	640K	CK	(480)K	440K	380K	320K	(260)K	(250)K	280K	[280]AK	(280)K
28	290K	(240)K	260K	260HK	280HK	240	(300)	340	360	340	C	C	C	380	400	390	340	(380)	320	280	(250)	(280)	280	280
29	260	[280]A	(300)	300	240H	280	(450)	(360)	[360]A	340	420	530	(410)	420	380	360	310	300	260	240	230	240	(320)	290
30	300	[280]A	[290]A	280	300	(260)	(420)	(540)	420	(420)	A	A	A	420	340	380	340	320	300	(260)	260	280	C	C
31																								
Sum																								
Median	260	260	260	260	250	250	270	350	340	340	370	360	380	380	360	360	340	320	300	260	240	240	260	270

TABLE 55

IONOSPHERE DATA- 2

RESTRICTED

Washington, D.C. Ionosphere Station
(Location)

National Bureau Of Standards
(Institution)

Hourly values of f^oF_2 in Mc for June (Month) 1945

Records measured by: J.H.C. W.A.T.

TIME: 75° W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	[illegible]	[illegible]	2.7F	[illegible]	2.7F	[3.5]K	4.6	5.0	5.6	5.5	5.4	5.5	5.5	[6.0]C	[6.1]C	6.1	6.0	6.0	6.4	6.7	(6.6)	(6.4)	5.3	4.3
2	4.2	4.0	(3.5)	3.1	3.0	3.5	4.3	5.4	5.3	5.8	6.2	5.7	5.9	5.8	5.8	(5.8)	6.2	6.3	(6.6)	(6.4)	(6.7)	(5.8)	5.6	[4.8]C
3	4.7	4.4	4.0	3.6	3.4	4.3	5.0	5.2	5.7	5.6	(5.9)	6.0	5.9	6.1	6.2	6.0	5.8	5.9	6.0	(6.7)	(6.6)	5.5	4.9	4.5
4	[illegible]	[illegible]	3.8	3.5	3.4	3.9	5.0	5.3	(6.0)	5.9	6.6	6.4	6.6	6.7	(6.2)	(6.0)	6.0	6.4	(7.0)	(7.3)	[6.6]A	5.8	(4.6)F	4.8
5	[illegible]	[illegible]	3.5	[illegible]	[illegible]	(3.9)	5.0	4.7	5.4	5.5	5.7	5.5	5.6	5.7	6.2	6.4	6.2	6.1	6.3	6.8	(7.6)K	6.1K	4.9K	4.5K
6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4.0K	(4.3)K	4.6K	(4.8)K	5.0K	(4.9)K	(5.2)K	(4.9)K	5.2K	5.2K	6.0	5.7	5.7	5.5F	5.0	4.4	4.1	(3.4)J
7	(3.3)	[illegible]	[illegible]	[illegible]	(2.5)F	[illegible]	(4.0)	4.2	(4.7)	4.7	5.2	5.6	5.7	C	C	5.8	6.4	7.4	7.5	6.8	(6.1)	4.9	4.1	(3.6)
8	(3.2)	(3.1)	(2.9)	(2.8)	(2.8)F	(3.8)	[illegible]	(4.1)	(4.5)	(4.8)	[5.1]C	(5.0)	5.3	[5.6]A	5.7	C	C	C	6.2	7.2	7.2	(6.0)	5.8	(5.0)
9	(4.3)	3.5	3.5	(3.1)F	(3.4)F	3.9F	(4.2)	>4.0G	(4.9)	5.6	5.6F	6.0	(5.4)	5.5	5.6	5.6	5.7	5.9	6.2	7.6	(7.2)	(6.0)	5.7	5.1
10	4.9	4.5	4.2	3.9	(2.9)	(3.4)	4.3	4.3	5.0	5.3	5.5	(6.4)	5.5	5.4	5.2	5.7	5.9	5.8	6.2	6.3	5.5	C	C	[4.7]C
11	[4.4]C	4.3	3.7	(3.5)	[illegible]	[illegible]	4.2	4.7	5.3	5.8	6.1	(6.2)	6.0	5.7	6.1	5.7	(6.3)	C	C	C	C	C	C	C
12	4.3	4.3	3.7	(3.4)J	[illegible]	(3.5)	4.6	5.2	(5.4)	(5.7)	(6.5)	6.1	6.0	6.2	6.3	6.1	6.4	(6.7)	6.7	[7.0]C	6.8	(6.0)	5.4	5.3
13	4.9	4.2	3.9	3.8	3.7	(4.0)	4.2	4.8	5.3	5.7	6.2	(5.9)	(6.3)	6.4	6.5	6.6	6.2	6.8	6.5	6.8	(6.2)	5.9	5.4	4.7
14	4.7	4.6	4.0	3.9	3.5	[4.1]C	5.3	6.3	7.2	6.2	6.1	6.2	6.3	6.4	6.9	6.4	5.9	7.0	7.6	7.6	7.1	6.0	5.1	4.8
15	4.4	4.0	4.0	3.4	(3.4)	3.9	4.7	5.1	5.5	6.0	5.7	5.6	5.7	5.7	5.5	5.8	6.0	(6.1)	6.5	6.4	(6.2)	5.6	4.6	4.2
16	4.0	(3.7)	3.5	3.5	(3.4)	4.0	4.5	4.8	5.6	5.6	6.3	(6.2)	6.2	6.4	6.6	6.5	6.4	6.4	(6.7)	6.2	6.2	5.8	(5.3)	5.1
17	4.4	4.0	3.9	3.7	(3.5)	(3.7)	4.5	4.8	5.2	5.5	5.7	6.0	6.4	6.4	6.4	6.4	6.3	6.4	6.7	(6.3)	(6.9)	5.8	5.1	4.8
18	4.5	4.3	4.0	3.9	3.8	4.1	(4.7)	5.3	5.7	5.5	5.5	(5.4)	5.6	5.5	[5.6]C	5.6	5.6	5.8	5.8	(6.4)	(5.9)	5.6	5.3	4.7
19	4.6	4.4	4.0	3.7	3.7	3.8	4.5	[5.2]C	[5.5]C	5.4	[5.5]C	[5.3]K	(5.7)	5.7	(5.8)	5.7	(6.0)	(6.3)	(6.1)	(6.0)	6.6	5.8	5.7	5.5
20	5.3	5.0	4.3	3.6F	3.8	3.9	4.5	>4.4G	5.5	6.1	5.7	6.2	5.9	6.4	6.0	6.2	6.6	6.4	6.2	6.4	6.5	(6.0)	5.8	5.4
21	5.3	5.0	4.6	3.6	3.5	(4.2)	5.2	(5.7)	5.5	5.7	5.8	6.0	[5.9]C	5.8	5.7	5.3	5.6	5.5	[5.7]A	[5.6]A	(5.0)	(5.8)	5.8	5.5
22	4.7F	4.2F	3.7F	(3.3)F	(3.3)	3.8	5.1	5.8	6.4	(7.2)	6.6	6.5	6.4	C	C	6.6	6.6	(6.8)	[7.1]A	7.4	6.8	(6.0)	5.7	5.1
23	4.7	4.5	3.9	3.5	[3.4]A	3.9	4.6	(5.3)	5.9	(5.7)	6.0	6.4	6.0	6.4	6.6	6.2	6.1	6.4	6.8	(6.8)	6.7	(6.6)	5.8	5.6
24	5.4	4.6F	4.3F	3.6F	(3.4)	3.5	4.2	(4.8)	5.5	5.5	5.7	5.7	5.9	5.7	(5.7)	6.5	5.9	6.3	(6.6)	(6.6)	(6.8)	(6.2)	5.5	5.2
25	5.1	4.9	(4.7)	(3.8)F	[3.6]A	4.0	5.1	5.6	6.4	6.5	6.6	6.6	(6.1)	(6.3)	6.4	6.4	6.4	6.4	6.6	6.0	(6.2)	5.8	5.0	4.7
26	4.4	4.0	(3.5)	(3.3)	3.3	3.9	4.4	4.9	5.5	5.7	5.8	6.2	6.0	5.9	6.2	5.9	6.0	6.2	6.6	(7.1)	(6.8)	6.1	5.4	4.7
27	4.5	(4.2)	4.1	4.1	(3.3)K	3.6K	3.8K	(4.1)K	4.2K	4.8K	5.4K	[5.1]AK	(4.9)K	(4.8)K	>4.4GK	(4.8)K	4.8K	5.0K	5.1FK	5.4FK	(4.7)FK	(4.6)FK	[4.0]AK	(3.8)K
28	(4.7)FK	(3.5)FK	(3.5)FK	2.5FK	(1.9)FK	3.8	(4.4)	(4.7)	5.0	6.0	C	C	C	5.5	5.3	5.4	5.2	(5.2)J	5.6	5.3	(6.0)	(5.6)	5.2	(4.7)F
29	4.7F	(4.2)	3.9	3.7F	(3.3)F	3.8	(4.5)	5.0	(5.0)	5.5	4.8	5.0	(5.5)	5.2	5.6	5.6	6.1	(6.4)	[6.4]C	5.7	5.4	4.9	(4.6)	3.9
30	3.6	[3.5]A	[3.3]A	3.2	2.9F	(3.5)	(3.8)	(5.3)	4.7	(4.8)	A	A	A	5.4	5.8	(5.4)	6.0	5.9	5.8	[5.6]C	(5.6)	C	C	C
31																								
Sum																								
Median	4.4	4.2	3.8	3.5	3.4	3.8	4.5	5.0	5.4	5.6	5.7	6.0	5.9	5.8	5.9	5.9	6.0	6.3	6.4	6.4	6.6	5.8	5.3	4.8

TABLE 56

IONOSPHERE DATA - 3

RESTRICTED

Washington, D.C. Ionosphere Station
(Location)

National Bureau Of Standards
(Institution)

Half hourly values of f^oF_2 in Mc for June (Month) 1945

Records measured by: J. M. C.
W. A. T.

TIME: 75° W MERIDIAN

Day	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130	1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330
1	[illegible]	[illegible]F	([illegible])F	[2.7]A	3.0F	4.2	4.6	5.3	5.6	5.5	5.6	5.4	5.5	6.0	6.2	6.0	6.0	(6.0)	6.4	(6.8)	6.6	5.7	4.5	4.4
2	[illegible]	[illegible]	[illegible]	3.0F	3.2	4.1	4.8	5.6	5.8	6.0	5.9	5.6	5.8	5.9	5.5	5.8	(6.4)	6.2	(6.3)	(6.7)	6.2	5.6	5.3	4.6
3	[illegible]	[illegible]	3.1	3.4	2.6	4.8	5.3	5.5	6.1	5.8	5.5	5.8	6.2	6.0	6.0	5.9	6.2	6.1	(6.3)	7.2	6.4	5.2	4.5	4.4
4	4.2	[illegible]	[illegible]	[illegible]	(3.2)F	(4.4)	5.0	5.8	(5.8)	5.8	6.7	6.4	6.6	(6.8)	6.3	6.0	6.5	6.6	7.6	(7.0)	(6.2)	5.6	(4.7)F	(4.6)F
5	[illegible]	[illegible]	[illegible]	(3.3)	3.5J	4.2	5.0	5.2	(5.5)	5.6	5.5	5.6	5.6	6.0	6.2	6.3	6.2	6.0	(6.5)	(6.8)K	6.9K	5.6K	4.6K	4.5K
6	4.4A	[illegible]F	[illegible]	([illegible])K	(3.8)K	3.8K	(4.0)K	4.6K	>4.2GK	(5.3)K	(4.9)K	5.2K	5.7K	5.1K	5.4K	5.7K	5.7	5.7	5.7	(5.3)F	5.0	4.4	(3.8)	(3.4)J
7	(2.9)	(3.2)	(2.0)	(2.5)J	(2.7)	4.4	4.2	(4.4)	(5.3)	5.4	(5.2)	5.6	C	C	5.9	6.1	7.2	7.5	7.6	(7.4)	5.4	4.4	4.1	(3.2)J
8	(3.4)	2.7	2.8	(2.8)F	2.6	3.5	(3.8)	(4.4)	4.9	(4.6)J	(5.0)	5.5	5.7	5.5	5.3	C	C	C	(6.4)	7.6	(6.6)	5.7	5.3	(4.2)
9	4.0	(3.3)	(3.2)A	3.4	3.3F	(4.0)	>3.9G	(4.4)F	5.0	5.6	6.2	(5.5)	(5.2)	5.4	5.7	5.7	5.9	5.8	(7.0)	7.4	6.6	5.8	5.5	5.3
10	4.7	4.4	4.0	3.3	(3.1)	3.9	4.4	4.8	4.9	5.6	5.6	(5.6)	(5.5)	5.2	5.5	5.6	5.7	6.0	6.3	6.5	5.5	C	C	C
11	4.3	4.0	3.5	3.1	3.2	3.7	4.8	4.8	5.4	(5.8)	6.3	(5.8)	5.8	5.8	5.8	6.2	C	C	C	C	C	C	C	C
12	4.3	4.0	3.5	(3.5)	(3.4)	4.0	4.6	5.3	5.7	6.2	6.6	5.8	6.2	6.4	6.0	6.4	6.4	6.7	6.7	(7.2)	(7.0)	5.8	5.3	5.1
13	7.4	4.1	3.9	3.5F	3.4	4.0	4.7	5.0	(5.5)	(5.8)	(6.0)	(6.0)	6.4	6.4	[6.6]C	6.5	6.4	6.6	(6.7)	6.6	(6.2)	5.6	5.1	4.5
14	4.8	4.1	3.8J	3.6	3.5	4.7	5.7	6.5	(6.8)	6.1	6.3	6.3	6.4	6.6	7.1	6.5	7.0	(7.0)	7.7	6.8	(6.4)	5.6	5.0	4.6
15	4.2	4.0	3.6	3.5J	3.5	4.2	4.7	(5.1)	5.8	6.1	5.9	5.6	5.7	5.8	5.8	5.8	5.8	6.2	(6.2)	6.4	(5.8)	5.1	4.2	4.2
16	3.8	3.7	3.5	3.5	3.4	4.1	4.7	5.1	(5.7)	6.0	6.0	6.2	6.2	6.6	6.5	6.6	6.4	6.9	(6.7)	6.0	5.8	5.4	5.3	4.4
17	4.0	4.2	3.8	(4.1)	3.9	4.2	5.0	4.9	(5.3)	5.5	6.0	(6.2)	6.4	6.5	6.4	6.0	6.5	6.4	6.8	6.6	(6.0)	5.4	5.0	4.8
18	4.4	4.2	3.9	3.8	3.8	4.6	5.5	5.5	5.4	5.7	5.3	5.5	5.5	(5.8)	5.4	5.7	5.5	5.8	(5.9)	(6.2)	5.5	5.3	[5.0]C	4.8
19	[4.5]C	4.3	[3.7]C	3.8	3.5	4.2	5.0	5.7	[5.4]C	5.4	5.6	[5.5]A	5.5	6.0	5.7	6.0	[6.2]A	[6.2]A	(6.2)	[6.3]A	6.2	5.8	5.5	5.4
20	5.1	5.1	3.9	3.9	3.5	4.4	4.6	4.9	6.0	5.9	5.9	6.3	6.2	6.3	(5.8)	6.3	6.6	6.2	6.2	6.8	6.4	5.9	5.6	5.2
21	4.9	4.9	4.6	(3.6)	3.7	4.5	(5.2)	5.2	5.2	5.7	5.6	5.8	5.4	5.7	5.7	5.5	(5.6)	[5.6]A	5.8	[5.3]A	(6.1)	(5.8)	5.7	(4.8)
22	4.4F	3.9F	(3.4)F	(3.3)	(3.7)	4.2	5.2	6.4	(6.8)	6.1	6.4	6.4	C	C	6.4	(6.6)	6.6	7.0	(7.2)	[7.2]A	(6.5)	(6.0)	(5.1)	5.0
23	4.5	4.3	3.5	[3.5]A	(3.4)	4.5	(5.1)	5.9	5.8	5.8	6.3	6.3	6.1	6.5	6.6	6.2	6.3	6.6	7.1	6.6	(6.4)	6.4	5.6F	5.6
24	5.2F	4.5F	3.9F	3.5	(3.4)	3.7	4.5	5.1	5.7	5.6	5.5	5.8	6.0	5.8	5.8	5.8	5.6	(6.1)	[6.6]A	(6.6)	6.6	5.8	5.3	5.1
25	4.8	4.7F	4.0F	[3.6]A	(4.0)	4.8	5.6	6.0	6.6	6.6	6.6	6.3	6.3	6.5	6.2	(6.5)	6.5	6.6	5.7	(6.4)	(5.7)	5.2	4.7	4.3
26	4.2	3.8	3.4	3.0J	(3.0)J	4.3	4.8	5.3	5.5	(5.7)	5.9	5.7	5.7	5.9	5.9	5.9	6.1	6.6	(6.8)	(7.1)	(6.3)	5.7	5.2	4.4
27	4.4	4.2	4.0	3.8K	(3.3)JK	3.8K	(3.8)K	(4.2)K	(4.7)K	4.8K	5.3K	4.9K	>4.4GK	>4.2GK	4.7K	4.7K	5.1K	5.1K	5.2K	5.2FK	(4.8)K	4.3FK	3.8K	(4.0)F
28	(3.6)FK	(3.6)FK	[2.8]FK	2.2FK	2.7FK	3.8	4.2	4.8	5.5	5.0	C	C	C	5.5	5.4	5.4	5.2	5.5	5.6	5.6	5.8	(5.4)F	4.8F	(4.7)F
29	4.4F	4.0	(3.7)F	3.8F	(3.3)F	4.5	[4.7]A	[illegible]	5.6	(5.3)	>4.5G	5.2	5.2	5.4	5.7	5.9	[6.3]C	(6.5)	(6.4)	5.4	5.4	4.9	4.2	3.9
30	(3.5)	[3.4]A	(3.3)	3.0F	2.8F	(3.8)	4.7	[illegible]	4.8	(5.0)	A	A	5.4	6.0	6.0	(5.9)	(6.1)	5.8	5.8	5.2	(5.2)	C	C	C
31																								
Sum																								
Median	4.4	4.0	3.5	3.4	3.4	4.2	4.8	[illegible]	[illegible]	5.7	5.9	5.8	5.7	5.9	5.8	6.0	6.2	6.2	6.4	6.6	6.2	5.6	5.0	4.6

TABLE 57

IONOSPHERE DATA- 4

RESTRICTED

Washington, D.C. (Location) Ionosphere Station

National Bureau Of Standards (Institution)

Hourly values of $h'F_1$ in (km) for June (Month) 1945

Records measured by: J.M.C.

TIME: 75° W MERIDIAN W.A.T.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							A	220	[220]A	200	220	200H	200	C	[200]C	180	240	[240]A						
2								220	230	200	200	210	220	A	A	230	A	A	A					
3								220	220	A	A	210	180	200	210H	210	210	200	230					
4								240	240	210	[210]A	200	180	220	210	210	200	250	A					
5							A	240	210	220	180H	180H	210	240	170H	220	220	(240)	[240]A					
6						K	K	(220)K	220K	200K	180K	(200)K	220K	[230]AK	240K	240K	240	A	A					
7								230	210	220	200	210	180	C	C	230	220	A						
8								A	210	220	[210]C	220	A	A	200	C	C	C	[230]A					
9							230	220	210	220	220	200	200H	(240)H	200	210	220	250	230	240				
10							260	220	(280)	220	220	200	200	180	180	(250)	[240]A	260	A					
11								240	240	220	220	200	200	(220)	220	230	240	C	C					
12								(240)	[220]A	(200)H	220	190	(200)	190	210	210	220	220	210	240				
13								200	230	210	190	200	(200)	230	[220]A	(220)	[230]A	220	220	(240)				
14							260	230	220	[210]A	[200]A	200	200	(220)	220	210	220	(240)	(240)					
15								220	220	210	200H	180H	180	[190]A	(260)	(220)	(220)	(240)	(240)	240				
16								240	230	220	220	[220]A	220	A	A	220	240	260	240					
17							[240]A	220	230	(220)	230	[220]A	240	190	(200)	220	220	A	A					
18							220	220	220	220	190	170H	200	210	220	240	220	220	230					
19							220	[240]C	[220]C	210	[220]C	[200]C	A	A	240	200	A	A	A					
20						220	200	250	220	[210]A	200	[210]A	220	200	210	220	220	240	240					
21								[230]A	220	200	180	220	[220]C	A	A	220	220	A	A					
22							(240)	A	A	A	220	220	(210)	C	C	240	220	A	A					
23							A	A	(220)	[220]A	220	200H	200H	220	220	230	220	(240)	(240)					
24							(220)	240	220	220	210	200	[210]A	(220)	220	220	A	A	A					
25							(240)	A	A	200	[210]A	220	[220]A	A	A	220	220	220						
26								220	240	(200)	200	200	[220]A	200	220	220	230	240	(240)					
27						K	K	[240]AK	240K	(210)K	220K	[210]AK	200K	220K	210K	220K	240K	(240)K	[250]AK	K				
28							240	240	230	210	C	C	C	200	200	220	220	(230)	A					
29							(260)	[240]A	[230]C	220	240	220	200	(220)	220	220	220	(230)	(240)	230				
30							(230)	(240)	220	(220)	A	A	A	240	220	(240)	A	A						
31																								
Sum																								
Median							240	230	220	210	210	200	200	220	220	220	220	240	240	240				

TABLE 58

IONOSPHERE DATA-5

RESTRICTED

Washington, D.C. (Location) Ionosphere Station

National Bureau Of Standards (Institution)

Hourly values of $f^{\circ}F_1$ in {Mc / ■} for June (Month) 1945

Records measured by: J.M.C.

TIME: 75° W MERIDIAN W.A.T.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							A	3.9	4.2	4.3	4.5	4.5^{H}	4.5	4.5	[4.5]^{C}	4.4	4.3	A	A					
2								4.1	4.4	4.5	4.6	4.4	4.7	4.6	4.5	4.3	4.3	A	A					
3							3.6	4.1	4.3	4.4	[4.5]^{A}	4.7	(4.7)	4.6	4.7^{H}	4.5	4.3	4.2	3.5					
4									4.3	4.6	(4.5)	4.7	4.6	4.7	4.4	4.5	4.3	4.2	A					
5							[3.5]^{A}	[4.0]^{A}	4.2	4.5	4.6^{H}	4.8^{H}	4.7	4.7	4.5^{H}	4.3	4.1	4.0	(3.6)					
6							^{K}	4.0^{K}	4.1^{K}	4.4^{K}	4.3^{K}	4.4^{K}	4.5^{K}	(4.5)^{K}	4.4^{K}	4.3^{K}	4.0	(3.7)	A					
7								3.7	4.1	4.3	4.3	4.4	4.4	C	C	4.2	4.2	[4.0]^{A}	A					
8								(3.8)	(4.0)	4.2	[4.4]^{C}	4.6	(4.5)	[4.5]^{A}	4.7	C	C	C	[3.6]^{A}					
9							3.4	(4.0)	4.1	4.3	4.5	4.6	(4.7)^{H}	4.6^{H}	4.5	4.4	4.3	4.1	(3.6)					
10							(3.5)	(3.8)	4.1	4.4	4.4	4.5	4.5	4.6	(4.5)	4.4	4.2	4.1	3.6					
11							3.9	4.4	4.4	4.7	4.5	4.7	4.6	4.6	4.6	4.3	4.3	C	C					
12									4.5	4.6^{H}	(4.6)	4.7	(4.8)	4.6	4.7	4.6	4.5	4.3	3.6					
13								4.1	4.4	4.5	4.5	4.5	4.8	4.8	4.6	(4.6)	4.3	4.1	3.8					
14							[3.7]	4.3	4.5	4.5	[4.6]^{A}	4.7	4.9	4.8	4.8	4.5	4.3	4.1						
15								4.1	4.4	4.5	(4.5)^{M}	4.7^{H}	(4.8)	[4.7]^{A}	4.5	4.6	4.5	4.2	(3.6)					
16								4.1	4.3	4.6	4.5	[4.8]^{A}	4.8	(4.7)	4.6	4.5	4.5	4.0	(3.8)					
17								(4.1)	(4.4)	4.5	4.6	(4.8)	4.8	4.7	4.7	4.5	4.4	4.2	(4.0)					
18							(3.7)	4.2	4.3	4.5	4.5	4.7^{H}	4.6	(4.6)	(4.6)	4.5	4.4	4.1	(3.8)					
19							[3.8]	[4.2]^{C}	[4.4]^{C}	4.5	[4.6]^{C}	[4.7]^{C}	[4.8]^{A}	[4.7]^{A}	4.7	4.7	A	A	A					
20							3.6	4.4	4.3	4.6	4.7	(4.7)	4.9	4.7	4.7	4.6	4.4	4.2	(3.8)					
21								A	4.3	4.4	4.6	(4.7)	[4.7]^{C}	(4.8)	4.7	4.3	4.4	A	A					
22							(3.6)	[4.1]^{A}	(4.3)	4.5	4.7	4.7	4.8	C	C	4.6	4.4	[4.2]^{A}	A					
23							[3.7]^{A}	[4.0]^{A}	4.3	[4.4]^{A}	4.7	4.7^{H}	4.7^{H}	4.7	(4.5)	4.5	4.4	4.2	(3.9)					
24							(3.7)	4.0	4.2	4.5	4.6	4.6	(4.8)	4.6	4.6	(4.6)	[4.2]^{A}	4.1	A					
25								[4.0]^{A}	4.5	4.5	[4.6]^{A}	4.6	5.0	[4.6]^{A}	(4.6)	4.4	4.2	4.2						
26								(4.1)	4.2	4.5	4.6	4.6	4.6	4.4	4.5	4.3	4.2	4.1	3.8					
27							^{K}	3.8^{K}	4.0^{K}	4.2^{K}	4.4^{K}	[4.4]$^{A}_{K}$	(4.4)^{K}	(4.4)^{K}	4.4^{K}	(4.0)^{K}	4.1^{K}	4.0^{K}	3.6^{K}					
28							(3.5)	3.8	4.1	4.2	C	C	C	4.4	4.5	4.3	4.1	[4.0]^{C}						
29							(4.2)	[4.1]^{A}	[4.1]^{A}	4.3	4.4	4.5	(4.5)	4.5	4.4	4.3	4.1	4.1	(3.6)					
30							(3.5)	(4.2)	(4.0)	4.3	A	A	A	4.3	4.3	4.3	A	A						
31																								
Sum																								
Median							3.6	4.1	4.3	4.5	4.5	4.7	4.7	4.6	4.6	4.4	4.3	4.1	3.6					

TABLE 59

IONOSPHERE DATA- G

RESTRICTED

Washington, D C (Station) Ionosphere Station

National Bureau Of Standards (Institution)

Hourly values of $h'E$ in [km] for June (Month) 1945

Records measured by: J.M.C.

W.A.T.

TIME: 75° W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							120	110	110	110	110	100	110	[110]C	C	110	120	110	A					
2							110	110	110	100	110	110	110	110	110	110	110	110	120	120				
3						120	120	110	120	120	120	110	120	120	120	120	120	100	120	120				
4							110	110	110	120	110	110	110	120	120	110	110	120	120	120				
5						140	110	110	120	120	110	120	110	120	120	120	120	120	120	120	K			
6						K	110K	110K	120K	110K	110K	120K	110K	120K	120K	120K	120	120	120	120	150			
7							120	110	110	110	110	120	110	C	C	110	110	120	110	120	120			
8						120	110	120	110	110	[110]C	110	100	100	100	C	C	C	120	120				
9						120	110	110	110	110	110	110	110	100	120	110	110	110	120	120				
10						120	110	110	110	110	100	110	110	110	110	110	110	120	120	120				
11							110	110	120	120	110	110	120	110	110	110	120	C	C	C				
12						120	110	110	110	110	110	110	110	110	110	110	110	110	110	110				
13						110	110	110	110	110	110	110	110	110	110	110	110	120	120	110				
14							120	120	110	110	120	120	110	110	110	100	100	110	120	120				
15							120	110	110	110	110	100	110	110	110	120	100	100	120	120				
16							120	100	110	110	110	110	110	110	110	110	100	110	100	100				
17							110	110	110	110	110	110	110	110	110	110	110	110	120					
18							110	110	110	110	110	110	110	110	110	120	110	110	110					
19						110	110	[120]C	[110]C	100	[110]C	[110]C	110	110	120	110	110	110	110	110				
20						120	120	120	110	110	110	110	110	110	110	120	120	120	120	(130)				
21						120	100	120	120	110	110	110	[110]C	110	120	110	110	120	120	120				
22						120	120	110	110	110	110	110	110	C	C	110	120	110	120	120				
23						130	110	110	110	110	110	110	110	110	110	120	110	120	120	120				
24						120	110	110	110	110	110	110	110	110	110	110	110	110	100	120				
25						120	120	120	110	110	110	110	110	110	110	110	120	110	120	110				
26						120	120	100	110	110	100	100	120	100	110	110	110	110	110	120				
27						130K	110K	110K	110K	110K	110K	100K	100K	110K	110K	110K	110K	110K	110K	120K	K			
28						120	120	120	110	110	110	110	110	120	110	120	120	120	120	140				
29						140	(130)	120	120	120	120	110	120	120	120	120	120	120	120	120				
30						110	120	120	120	120	120	120	120	110	120	120	120	120	120	140				
31																								
Sum																								
Median						120	110	110	110	110	110	110	110	110	110	110	110	110	120	120				

TABLE 60

IONOSPHERE DATA - 7

RESTRICTED

Washington, D.C. (Location) Ionosphere Station

National Bureau Of Standards (Institution)

Hourly values of f^0E in Mc for June (Month) 1945

Records measured by: J.M.C. W.A.T.

TIME: 75° W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							A	(2.7)	3.1	A	A	3.4	(3.6)	[3.4]C	[3.4]C	3.4	(3.2)	(2.9)	A					
2							A	A	3.1	[3.4]A	[3.5]B	B	A	A	A	A	(3.2)	[3.0]A	A					
3						[1.7]A	2.4	(2.8)	(3.1)	A	A	A	A	A	A	A	3.1	[2.8]A	[2.4]A	A				
4							A	(2.7)	(3.1)	A	A	(3.5)	3.6	(3.6)	A	A	A	3.4	2.6	A				
5						A	2.5	[3.2]A	A	A	(3.4)	[3.5]A	(3.8)	(3.6)	(3.4)	(3.4)	3.4	(3.3)	A	(2.1)	K			
6						K	A K	(3.1)K	A K	A K	(3.5)K	[3.5]A K	A K	A K	A K	[3.4]A K	A	(3.2)	2.5	(1.6)	0.9			
7							A	A	A	A	A	A	A	C	C	A	A	3.1	(2.5)	A	C			
8						(1.8)	2.4	(2.9)	A	A	C	A	A	A	A	C	C	C	(2.6)	A				
9						[1.7]C	2.5	[3.0]A	(3.4)	(3.5)	A	B	3.6	(3.5)	3.6	3.4	3.4	3.3	2.8	1.7				
10						(1.7)	2.6	A	A	A	A	A	[3.6]A	(3.5)	3.6	C	A	(3.3)	2.8	A				
11							(2.5)	(3.1)	[3.3]A	(3.4)	(3.6)	(3.4)	[3.6]A	(3.6)	(3.5)	A	B	C	C	C				
12						A	2.6	A	A	A	A	(3.6)	A	B	A	3.5	[3.5]A	3.4	(2.8)	(2.0)				
13						A	A	A	A	A	[3.6]A	[3.6]B	3.6	3.8	(3.5)	C	A	[3.3]A	(2.9)	A				
14							2.6	[3.2]A	A	A	A	A	A	A	(3.5)	3.7	(3.4)	[3.4]A	A	A				
15							(2.5)	A	A	A	(3.5)	[3.5]A	[3.6]A	A	A	A	A	3.3	(2.8)	A				
16							A	A	A	A	A	A	A	A	A	A	A	3.4	2.7	A				
17							A	A	A	A	A	3.6	(3.6)	3.6	A	A	A	A	A	A				
18							(2.7)	3.3	(3.4)	3.6	[3.6]B	[3.6]A	[3.6]A	B	C	B	A	A	(2.8)					
19						A	A	C	C	A	C	C	A	A	3.5	A	A	A	A	A					
20						[1.5]A	2.5	(3.3)	A	A	A	A	A	A	A	A	A	(3.3)	(2.8)	(2.0)				
21						A	(2.5)	[3.0]A	[3.3]A	3.4	(3.5)	(3.5)	[3.6]C	A	A	(3.4)	[3.4]A	[3.3]A	(2.8)	A				
22						A	(2.5)	(3.3)	A	A	3.5	[3.5]A	A	C	C	(3.6)	3.4	[3.2]A	A	A				
23						(1.9)	2.5	(3.2)	(3.4)	A	A	(3.6)	3.7	(3.6)	(3.5)	[3.4]A	(3.4)	A	A	A				
24						A	2.7	A	A	A	A	A	A	A	A	3.5	[3.4]A	(3.4)	(3.7)	A				
25						A	(2.5)	(3.3)	A	A	A	A	A	A	A	A	A	A	(2.8)	(1.8)				
26						A	(2.6)	(3.3)	(3.5)	(3.6)	[3.6]A	(3.7)	A	A	A	[3.5]A	[3.4]A	3.3	2.7	A				
27						A K	[2.5]A K	(3.0)K	A K	A K	A K	A K	(3.5)K	(3.5)K	[3.5]A K	(3.5)K	[3.4]A K	3.4K	2.5K	A K	K			
28						A	A	A	A	A	C	C	C	A	A	3.5	(3.5)	(3.3)	(3.0)	A				
29						A	(2.4)	(3.2)	3.5	A	A	A	A	A	(3.6)	A	A	A	(3.8)	A				
30						[2.0]A	A	A	A	A	A	A	A	A	[3.5]A	A	A	3.3	[2.9]C	(2.3)				
31																								
Sum																								
Median						1.7	2.5	3.2	3.3	3.4	3.5	3.5	3.6	3.6	3.5	3.5	3.4	3.3	2.8	2.0				

TABLE 61

IONOSPHERE DATA - 8

RESTRICTED

Washington, D.C. (Location) Ionosphere Station

National Bureau Of Standards (Institution)

Hourly values of E_s in {Mc / km} for June (Month) 1945

Records measured by: J.M.C. W.A.T.

TIME: 75° W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1		5.9 110	5.3 110	6.3 110	6.0 110	6.9 100	5.4 110	4.2 110	5.2 110	4.6 110	4.3 110	4.0 110	4.2 100	4.3 110	C		4.5 110	6.6 110	5.4 110	4.5 120	3.8 120	5.6 110	4.2 110	3.4 110
2	3.1 110	3.4 100	4.6 100	3.6 110	3.0 110	3.4 100	3.6 100	4.3 110	3.4 110	3.5 110	3.8 110	3.7 100	5.7 110	5.7 110	6.1 110	4.6 110	(4.9) 100	5.4 110	3.6 120	3.2 120	3.4 110	4.2 120	1.9 120	C
3	1.6 110	1.4 100	1.1 100		1.1 120	3.6 110	3.7 100	4.6 100	5.1 110	5.6 110	5.6 110	5.6 110	4.1 110	4.2 110	4.2 110	3.4 110	3.6 120	4.0 100	3.4 110	3.3 120	3.4 110	4.3 110	3.5 110	3.2 120
4	2.6 110	1.7 120	2.9 110	3.0 110	3.7 120	4.6 100	5.0 110	4.5 110	5.8 110	4.7 110	5.9 110	3.7 110	4.1 110	3.4 110	4.3 110	3.9 120	4.1 120	4.7 120	5.0 120	6.0 120	5.8 120	5.7 120	5.4 120	(3.4) 120
5	2.6 120	1.6 120	1.1 140	3.5 110	3.4 110	2.5 120	4.1 120	4.1 110	4.7 110	4.6 120	3.4 110	3.7 110	4.2 120	4.1 110	4.6 110	4.2 120	3.7 120	4.6 120	4.1 120	2.0 120	3.4 120	4.1 110	4.6 120	4.7 120
6	4.2 120	5.7 110	4.0 110	4.6 100	4.0 110	3.9 110	4.3 110	4.0 110	5.3 120	3.4 110	4.5 110	2.6 120	4.6 110	5.2 120	4.4 120	4.7 120	5.3 120	5.5 120	5.7 120	4.3 140	0.9 120	0.8 120	1.0 140	1.7 120
7	1.7 120	1.5 120	1.1 120	1.7 120	1.6 120	2.6 110	4.6 120	3.9 110	3.9 110	4.3 110	4.3 110	4.3 110	4.4 110	C	4.0 100	3.4 110	3.7 110	6.6 110	4.4 110	2.6 110				
8				1.0 100	1.4 120	2.5 120	2.9 110	5.7 110	5.9 100	4.9 110	3.8 110	5.6 110	5.6 100	6.7 100	4.1 100	C	C	4.2 110	3.2 120	2.3 120	3.2 120	3.2 120		
9			1.0 150	1.0 120	1.1 140	2.9 120	(34) H 110	3.7 110	3.9 110	4.3 110	4.4 120	4.3 110				4.8 140	4.3 120	4.2 130	3.3 120	3.4 110		2.9 120	2.7 110	
10	2.6 120	2.7 120				2.7 110	3.6 110	3.4 120	5.5 110	3.9 110	4.3 100	4.4 120	4.5 110	4.2 140	4.0 140	3.8 110	4.9 120	3.9 110	4.5 120	3.9 120	2.8 120	C	C	C
11	2.9 110		2.6 110	(1.5) 120	2.7 120	2.7 110	4.0 110	4.3 110	4.3 110		(4.2) 110	4.1 120	4.3 110	4.2 120	3.6 120	3.9 120	C	C	C	C	C	C	C	C
12	3.4 110	3.8 110	2.8 110	3.4 120	3.5 110	3.4 110	4.2 110	4.4 110	5.0 120	(3.9) 110	4.3 120	4.3 110	4.3 110	3.7 110	4.1 110	3.6 120	4.3 110			3.2 110	3.4 120	3.5 110	3.5 110	3.5 110
13	4.3 100	3.6 100	3.8 100	2.8 110	2.8 110	3.3 110	3.4 100	3.7 120	4.1 120	3.4 110	4.6 100			4.2 110	5.6 120		4.2 110	3.8 120	3.5 110	4.3 110	4.1 120	4.4 120	4.8 120	5.8 120
14	5.7 110	4.4 120	3.5 110	3.4 110	4.5 110	3.7 110	4.9 110	5.4 120	4.3 110	5.5 110	5.3 110	4.4 120	5.3 110	4.2 120	3.8 160	5.8 110		3.4 110	4.3 120	2.5 120			2.6 120	2.9 120
15	3.4 120	3.0 110	2.5 120	5.3 120	4.3 100	5.3 110	5.7 120	5.2 110	4.3 110	5.0 110		3.7 110	5.7 110	6.0 110	5.6 100	5.3 110	4.2 100	3.6 110	3.7 130	4.0 110	4.2 120		3.2 120	(3.2) 120
16	2.8 110	4.7 110	3.4 100	3.9 100	3.6 100	4.0 100	5.9 100	5.9 100	6.0 100	6.6 110	6.4 110	6.5 110	8.1 100	9.4 110	6.4 100	4.6 110	3.4 100	3.4 140	3.4 100	2.6 100	2.8 110	3.9 110	3.4 110	2.7 110
17	2.7 110	3.0 110	3.5 110	6.4 100	(6.6) 100	4.1 100	4.3 110	4.3 110	5.7 110	6.6 110	5.4 120	5.9 120	5.7 120	4.3 120	3.7 100	3.6 110	4.3 110	6.0 110	6.5 110	4.5 110			3.6 120	4.5 120
18	2.9 120	1.9 120	1.1 110	1.2 100	1.8 100	3.4 100	(4.0) 110	3.7 120	4.0 110	5.1 110		5.6 110	5.4 110			3.6 110	4.9 110	3.8 110	3.9 120	5.5 120	4.6 120	4.4 110	5.8 110	3.3 110
19	3.4 110	4.1 100	3.5 110	4.0 100	3.7 100	3.4 110	4.0 110	4.5 110	5.7 110	4.7 100	5.7 110	6.5 110	6.6 110	5.8 110	4.7 110	4.2 110	8.1 110	(7.2) 110	5.9 110	6.5 110	4.7 110	3.4 110	2.9 120	4.1 120
20	3.3 110	1.1 110	2.8 120	2.5 110	3.3 120	3.4 120	3.7 110	4.4 120	6.0 110	5.7 110	4.9 110	5.8 100	4.1 110	3.7 110	4.4 110	4.1 120	4.0 120	3.4 120	3.3 120	2.7 (30)	3.4 120	3.4 120		2.8 120
21	1.0 120	3.3 110	3.5 110	2.6 120	2.9 120	(3.3) 120	4.2 110	5.9 110	4.0 120	3.6 120	3.8 110	4.4 120	6.4 120	5.9 110	5.8 110	3.8 150	6.0 110	8.4 120	8.7 120	(8.2) 120	6.8 120	6.4 110	7.4 110	6.5 110
22	6.4 120	4.9 H 120	5.7 110	6.7 120	8.5 H 120	6.3 120	4.7 120	6.4 110	5.5 110	5.5 100	5.2 110	6.3 110	5.6 100	C	4.1 110		5.0 120	5.5 110	7.0 100	6.7 110	5.9 110	4.1 120	3.2 120	5.0 120
23	4.2 110	3.8 110	4.1 100	4.3 120	5.7 120	4.4 120	6.6 120	6.0 120	5.8 110	5.0 110	4.4 110		4.2 110	(3.8) 140	(3.7) 110	4.1 110	4.2 120	4.6 110	4.3 120	5.7 120	5.4 120	4.6 120	4.2 120	3.9 110
24	2.5 100	2.6 110	2.7 110	2.8 110	1.2 110	2.8 120	4.1 110	4.5 110	5.5 110	5.0 110	6.5 110	6.4 110	5.9 110	5.2 110	6.4 110	6.3 120	6.6 110	7.6 120	6.8 110	5.7 120	5.4 110	5.4 110	3.8 120	3.5 110
25	4.2 110	5.0 110	4.6 H 110	6.4 H 110	7.0 120	4.9 120	4.7 110	6.3 120	5.8 110	6.4 110	5.5 110	4.8 110	6.1 110	6.5 110	6.0 110	4.5 110	4.6 110	3.7 110	4.2 120	4.7 120	4.8 120	3.4 110	4.3 120	4.3 110
26	2.8 110		1.1 110	1.0 120	1.1 120	2.7 110	3.7 120	4.3 110	4.3 110	5.5 110	4.3 110	3.9 110	5.2 100	4.8 100	5.0 110	4.5 110	5.0 110	4.1 120	3.6 120	3.7 120	3.4 120			
27				0.9 140	2.9 130	3.9 110	4.8 110	4.5 110	4.2 110	5.8 110	4.7 110	7.0 100	4.1 100		4.6 110	5.7 110	4.4 110	5.2 120	6.0 110	5.9 120	6.6 120	6.0 120	6.0 120	4.1 110
28	4.3 100	4.1 100	2.9 100	3.0 110	2.7 110	3.5 120	3.7 110	4.3 120	4.6 110	4.3 110	C	C	C	4.2 120	4.3 110			3.5 120	4.2 120	4.2 140	5.5 130	5.8 120	3.9 120	3.3 120
29	3.3 120	(4.3) 120	4.0 110	3.5 120	2.6 120	(2.2) 120	4.3 120	5.3 120	5.4 120	5.7 120	5.0 110	5.0 110	4.6 110	4.0 120	4.2 120	4.6 120	4.4 120	4.2 120	2.7 120	4.1 120	3.8 120	3.4 120	4.8 120	3.4 120
30	5.9 120	6.2 120	5.0 110	4.9 110	4.1 120	3.7 110	3.8 110	4.5 110	6.2 120	6.0 120	11.5 120	13.7 120	7.0 120	4.3 110	5.5 120	5.3 120	5.7 120	6.0 120	5.4 120	3.4 140		C	C	C
31																								
Sum																								
Median	2.9	3.2	2.9	3.2	3.2	3.4	4.2	4.4	5.2	5.0	4.5	4.4	4.6	4.2	4.3	4.1	4.4	4.2	4.2	4.1	3.4	3.9	3.5	3.4

TABLE 62

IONOSPHERE DATA - 9

RESTRICTED

Washington, D.C. (Location) Ionosphere Station

National Bureau Of Standards (Institution)

Hourly values of F2-MI500 for June (Month) 1945

Records measured by: J.M.C.

TIME: 75° W MERIDIAN W.A.T.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	2.2 F	1.9 F	(2.0) F	A	2.0 F	A	2.3	2.0	2.2	2.1	2.2	2.0	1.9	C	C	2.0	2.1	2.0	2.1	2.1	(2.1)	(2.2)	1.9	2.1
2	1.9	2.0	A	2.0	2.1	2.4	2.1	2.2	2.1	2.1	2.2	2.1	1.9	1.9	1.9	(1.9)	2.1	2.1	(2.1)	(2.2)	(2.2)	(2.2)	2.1	C
3	2.0	2.0	2.0	2.1	2.1	2.3	2.2	2.2	2.2	2.1	(1.8)	2.0	2.1	2.0	2.0	2.0	2.1	2.0	2.2	(2.1)	(2.1)	2.1	2.0	2.0
4	2.0	2.0	2.0	2.2	2.4	2.6	2.3	2.3	(2.4)	2.0	2.2	2.0	2.1	2.0	(2.1)	(2.1)	2.0	2.0	(2.1)	(2.1)	A	2.1	(2.1) F	2.1
5	2.0	2.0	(2.0)	J	(2.2)	(2.2)	2.5	2.2	2.2	2.2	2.3	1.8	1.9	2.0	2.0	2.0	2.0	1.9	2.0	2.0	(2.1) K	2.2 K	1.9 K	(1.9) K
6	1.9 K	(2.0) K	(1.9) K	A K	A K	(2.2) K	A K	(1.7) K	1.8 K	(1.4) K	1.8 K	(1.7) K	(1.6) K	(1.7) K	(1.8) K	1.7 K	1.9	1.9	2.1	(2.2) F	2.0	1.9	1.9	J
7	(2.0)	A	(2.0)	B	J	(1.9)	A	1.6	(1.6)	1.9	1.8	2.0	2.0	C	C	1.9	1.9	2.1	1.9	2.0	(2.2)	1.8	2.0	(2.1)
8	(2.0)	(2.0)	(2.1)	(1.9)	2.1 F	(2.3)	(2.7)	(1.6)	(1.9)	(2.1)	C	(1.8)	1.6	A	2.0	C	C	C	1.9	1.9	2.1	(2.1)	2.0	(2.0)
9	(2.1)	2.3	2.0	(1.9) F	(1.8) F	1.8 F	(1.9)	G	(1.7)	2.1	2.0 F	2.3	(1.9)	1.9	1.8	1.8	1.9	2.0	2.0	2.0	(2.0)	(2.1)	2.0	1.9
10	1.9	1.9	1.9	2.0	2.2	(2.0)	2.2	1.7	1.9	2.0	2.0	(2.1)	1.9	1.8	1.7	1.8	1.8	1.9	2.0	2.1	2.2	C	C	C
11	C	2.0	2.1	(2.4)	2.0	J	(2.1)	2.1	2.0	2.1	2.0	(2.0)	2.0	2.0	2.0	1.9	(2.0)	C	C	C	C	C	C	C
12	2.0	2.0	1.9	J	J	(2.5)	2.5	2.2	2.0	(2.2)	(1.8)	1.9	1.8	1.9	1.9	1.9	1.9	(2.0)	2.0	C	2.1	(2.2)	2.0	1.9
13	2.1	1.9	1.9	(2.1)	2.1	(2.1)	2.1	2.1	2.2	1.8	2.0	(2.0)	(1.9)	1.8	1.9	2.0	2.1	2.0	2.1	2.1	C	2.0	1.8	1.9
14	A	2.0	2.1	2.0	2.0	C	2.1	2.2	2.2	2.1	1.9	1.9	1.9	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.1	2.1	1.9	2.0
15	2.0	2.0	2.0	(2.1)	(2.1)	2.2	2.2	2.0	1.9	2.1	2.0	1.7	1.7	1.9	1.8	1.9	2.1	(2.0)	2.0	(2.0)	(2.2)	2.1	2.0	2.0
16	1.9	(2.1)	2.1	2.0	2.1	2.4	2.1	1.9	1.9	1.9	2.1	(1.8)	1.9	1.9	2.0	2.0	2.1	1.9	(2.2)	2.1	2.1	2.0	(1.9)	2.1
17	2.0	2.0	1.9	2.2	(2.0)	2.3	2.5	1.8	1.7	1.8	2.0	1.8	1.9	2.0	1.8	2.0	1.9	2.0	2.0	(2.3)	(2.1)	2.1	2.0	1.7
18	1.7	1.9	2.0	2.0	2.1	2.2	2.1	2.1	2.1	1.8	1.9	(1.8)	1.6	1.9	C	1.9	1.9	1.9	2.2	(2.0)	(2.2)	1.9	1.7	1.9
19	2.0	1.7	2.0	2.0	2.2	2.1	2.0	C	C	1.8	C	C	A	1.9	(2.0)	1.8	A	(2.0)	(2.1)	(2.1)	2.0	2.0	2.1	1.9
20	1.9	1.8	1.9	2.2 F	2.0	2.4	2.2	-	1.7	2.0	1.8	1.9	1.8	2.0	(2.0)	1.9	2.0	2.0	2.1	2.1	2.1	2.1	2.0	2.0
21	1.9	2.0	2.1	2.3	2.1	2.1	2.4	A	2.0	2.2	1.9	2.0	C	2.0	1.9	1.6	1.9	A	A	A	(2.1)	2.1	2.0	2.1
22	(2.2 F	(2.0 F	(2.3 F	(2.2) F	1.9	(2.4)	2.2	A	2.0	(2.2)	2.1	2.1	1.9	C	C	1.9	1.9	(2.1)	A	(2.2)	(2.2)	2.2	2.1	2.1
23	2.0	2.0	2.0	2.2	A	2.2	2.0	A	2.0	A	2.0	2.0	(1.9)	2.0	2.0	1.9	2.0	2.0	2.1	(2.2)	2.0	2.0	1.9	1.7
24	2.1	2.0 F	2.1 F	2.3 F	(2.2)	2.4	1.8	2.0	2.0	2.2	2.0	1.9	1.9	2.0	(2.0)	2.1	2.0	2.0	A	(2.0)	(2.1)	2.0	2.0	2.0
25	1.7	2.0	(2.0)	(2.1 F	A	2.3	2.2	1.9	2.0	2.2	2.0	1.9	(2.0)	(2.0)	2.0	1.9	2.0	2.1	2.2	2.1	(2.2)	2.0	2.0	2.0
26	2.0	2.1	(2.4)	2.1	2.3	(2.4)	2.0	2.2	2.1	2.0	1.9	2.0	2.0	2.0	2.0	1.9	1.9	1.9	2.0	(2.1)	(2.2)	2.2	2.0	1.9
27	1.8	1.9	1.9	1.9	2.3 K	2.5 K	A K	1.7 K	(1.4) K	1.8 K	1.9 K	A K	(1.6) K	(1.5) K	G K	(1.8) K	1.8 K	1.8 K	2.0 F K	2.2 F K	2.3 F K	2.2 F K	A K	2.1 K
28	2.0 F K	2.1 F K	2.0 F K	1.9 F K	(2.0) F K	2.0	2.2	2.1	2.0	1.9	C	C	C	1.9	2.0	1.9	2.0	J	2.0	2.0	2.1	2.1	2.2	(1.9) F
29	(2.1 F	2	(2.1	(2.0 F	2.1 F	1.8	1.1	1.1	A	2.1	1.9	1.6	(1.9)	1.8	1.9	2.0	2.1	(2.1)	C	2.1	2.0	2.1	(2.1)	2.0
30	(2.1	A	A	(2.0	1.7 F	2.2	1.8)	1.6	1.8	1.9	A	A	A	1.8	2.1	(1.9)	2.0	2.0	2.1	C	1.9)	C	C	C
31																								
Sum																								
Median	2.0	2.0	2.0	2.0	2.1	2.2	2.2	2.0	2.0	2.1	2.0	2.0	1.9	1.9	2.0	1.9	2.0	2.0	2.0	2.1	2.1	2.1	2.0	2.0

TABLE 63

IONOSPHERE DATA-10

RESTRICTED

Washington, D. C. (Location) Ionosphere Station

National Bureau Of Standards (Institution)

Hourly values of F2-M3000 for June (Month) 1945

Records measured by: J.M.C.

TIME: 75° W MERIDIAN W.A.T.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	(3.2)^{F}	2.9^{F}	(3.0)^{F}	A	3.0^{F}	A	3.4	3.0	3.2	3.1	3.2	3.0	2.8	C	C	3.0	3.1	2.9	3.0	3.0	(3.1)	(3.3)	2.9	3.0
2	2.9	3.0	A	3.0	3.0	3.5	3.1	3.3	3.1	3.1	3.2	3.1	2.9	2.9	2.9	(2.9)	3.1	3.1	(3.0)	(3.2)	(3.2)	(3.2)	3.0	C
3	3.0	2.9	2.9	3.1	3.1	3.3	3.2	3.2	3.2	3.1	(2.7)	2.9	3.1	3.0	3.0	2.9	3.0	3.0	3.2	(3.1)	(3.0)	3.1	3.0	2.9
4	2.9	2.9	(2.9)	3.2	3.4	3.6	3.3	3.4	(3.5)	3.0	3.0	2.9	3.0	3.0	(3.2)	(3.0)	3.0	3.0	(3.2)	(3.0)	A	3.1	(3.0)^{F}	3.2
5	3.0	3.0	(2.9)	J	(3.2)	(3.2)	3.5	3.1	3.2	3.2	3.4	2.7	2.9	2.9	3.0	3.0	2.9	2.9	2.9	3.0	(3.1)^{K}	3.2^{K}	2.9^{K}	(2.8)^{K}
6	2.9^{K}	(2.9)^{K}	(2.9)^{K}	A^{K}	A^{K}	(3.2)^{K}	A^{K}	(2.6)^{K}	2.7^{K}	(2.0)^{K}	2.8^{K}	(2.6)^{K}	(2.4)^{K}	(2.6)^{K}	(2.6)^{K}	2.6^{K}	2.8	2.9	3.0	(3.3)^{F}	2.9	2.9	2.8	J
7	(3.0)	A	(3.0)	B	J	(2.9)	A	2.5	(2.4)	2.8	2.7	2.9	3.0	C	C	2.9	2.9	3.0	2.9	2.9	(3.3)	2.8	2.9	(3.0)
8	(2.9)	(3.0)	(3.1)	(2.7)	(3.1)^{F}	(3.3)	(3.1)	(2.4)	(2.8)	(3.2)	C	(2.7)	2.5	A	3.0	C	C	C	2.8	2.9	3.0	(3.1)	3.0	(2.9)
9	(3.2)	3.2	3.0	(2.8)^{F}	(2.8)^{F}	2.7^{F}	(2.9)	G	(2.6)	3.1	3.1^{F}	3.3	(2.9)	2.8	2.8	2.8	2.9	3.0	2.9	3.0	(2.9)	(3.1)	2.9	2.8
10	2.8	2.8	2.8	3.0	(3.3)	(3.0)	3.2	2.6	2.8	3.0	3.0	(3.1)	2.8	2.7	2.5	2.7	2.8	2.9	3.0	3.1	3.3	C	C	C
11	C	3.0	3.1	(3.4)	3.0	J	(3.0)	3.0	2.9	3.1	3.0	(2.9)	3.0	3.0	3.0	2.9	(2.9)	C	C	C	C	C	C	C
12	3.0	2.9	2.9	J	J	(3.6)	3.5	3.3	(3.1)	(3.2)	(2.7)	2.8	2.7	2.9	2.8	2.8	2.9	(2.9)	3.0	C	3.1	(3.2)	3.0	2.9
13	3.0	2.8	2.9	(3.2)	3.1	(3.1)	3.1	3.1	3.3	2.9	3.0	(2.9)	(2.9)	2.8	2.8	2.9	3.1	3.0	3.1	3.1	C	3.0	2.9	2.9
14	A	2.9	3.0	3.1	2.9	C	3.0	3.2	3.2	3.1	2.9	2.8	2.8	3.0	2.9	3.1	2.9	2.9	3.0	3.0	3.0	3.1	2.9	3.0
15	3.0	2.9	3.0	(3.0)	(3.1)	3.2	3.2	3.0	2.9	3.0	3.0	2.6	2.6	2.8	2.7	2.9	3.1	(3.0)	3.0	(3.0)	(3.2)	3.0	3.0	3.0
16	2.9	(3.1)	3.1	3.0	(3.1)	3.5	3.1	2.9	2.9	2.9	3.1	(2.9)	2.9	2.8	2.9	2.9	3.1	2.9	(3.3)	3.1	3.1	3.0	(2.9)	3.1
17	2.9	2.9	2.9	3.1	(2.9)	(3.4)	3.5	2.8	2.6	2.8	2.9	2.8	2.8	3.0	2.7	3.0	2.8	3.0	2.9	(3.3)	(3.1)	3.1	3.0	2.9
18	2.9	2.9	3.0	3.0	(3.1)	3.2	(3.1)	3.0	3.1	2.7	2.9	(2.7)	2.5	2.9	C	2.8	2.9	2.9	3.2	(3.0)	(3.1)	2.9	2.9	2.8
19	3.0	2.8	2.9	2.9	3.2	3.1	(2.9)	C	C	2.7	C	C	A	2.9	(2.9)	2.7	A	(3.0)	(3.1)	(3.1)	2.9	2.9	3.0	2.8
20	2.8	2.8	2.8	(3.2)^{F}	2.9	3.5	3.2	G	2.8	3.0	2.7	2.8	2.7	2.9	(2.9)	2.8	2.9	3.0	3.0	3.0	3.1	(3.1)	2.9	2.9
21	2.8	3.0	3.1	3.4	3.1	(3.1)	3.5	A	3.0	3.1	2.9	3.0	C	2.9	2.9	2.7	2.9	A	A	A	(2.9)	(3.2)	3.0	(3.1)
22	(3.1)^{F}	(3.0)^{F}	(3.3)^{F}	(3.2)^{F}	(2.8)	(3.4)	3.2	A	2.9	(3.2)	3.0	3.0	2.8	C	C	2.9	2.8	(3.0)	A	(3.3)	(3.2)	(3.2)	3.0	2.9
23	2.9	2.9	(3.0)	3.2	A	3.2	2.9	A	3.0	A	2.9	3.0	(2.8)	2.9	3.0	2.9	2.9	3.0	3.0	(3.1)	3.0	(3.0)	2.9	(2.9)
24	3.0	3.0^{F}	3.0^{F}	(3.2)^{F}	(3.2)	3.4	2.7	(2.9)	3.0	3.2	2.9	2.9	2.9	3.0	(2.9)	3.1	3.0	2.9	A	(3.0)	(3.1)	(3.0)	2.9	3.0
25	2.8	2.9	(3.0)	(3.1)^{F}	A	3.3	3.2	2.9	3.0	3.2	3.0	2.9	(3.0)	(3.0)	3.0	2.9	2.9	3.1	3.3	3.1	(3.2)	3.0	2.9	2.9
26	2.9	3.1	(3.5)	(3.1)	3.3	(3.4)	3.2	3.1	3.1	3.0	2.9	3.0	2.9	3.0	3.0	2.9	2.8	2.9	3.0	(3.1)	(3.2)	3.2	3.0	2.8
27	2.7	(2.8)	2.9	2.9	(3.2)^{K}	3.5^{K}	A^{K}	(2.0)^{K}	(2.0)^{K}	2.7^{K}	2.9^{K}	A^{K}	(2.3)^{K}	(2.2)^{K}	G^{K}	(2.7)^{K}	2.7^{K}	2.8^{K}	3.0$^{F}_{K}$	3.2$^{F}_{K}$	(3.4)$^{F}_{K}$	(3.2)$^{F}_{K}$	A^{K}	(3.0)^{K}
28	(2.9)$^{F}_{K}$	(3.0)$^{F}_{K}$	(3.0)$^{F}_{K}$	(2.9)$^{F}_{K}$	(3.0)$^{F}_{K}$	3.0	(3.2)	(3.1)	3.0	2.8	C	C	C	2.9	3.0	2.8	3.0	J	2.9	3.0	(3.1)	(3.1)	3.2	(2.9)^{F}
29	(3.0)^{F}	A	(3.1)	(2.9)^{F}	(3.1)^{F}	2.8	(2.5)	(2.9)	A	3.1	2.9	2.5	(2.8)	2.7	2.9	3.0	3.1	(3.1)	C	3.4	3.0	3.1	(3.0)	3.0
30	(3.1)	A	A	(2.9)	2.8^{F}	(3.2)	(2.7)	(2.4)	2.6	(2.8)	A	A	A	2.1	3.1	(2.9)	2.9	3.0	3.1	C	(2.9)	C	C	C
31																								
Sum																								
Median	2.9	2.9	3.0	3.1	3.1	3.2	3.2	3.0	3.0	3.0	2.9	2.9	2.8	2.9	2.9	2.9	2.9	3.0	3.0	3.1	3.1	3.1	3.0	2.9

TABLE 64

IONOSPHERE DATA- II

RESTRICTED

Washington, D.C. (Location) Ionosphere Station

National Bureau Of Standards (Institution)

Hourly values of F1-M3000 for June (Month) 1945

Records measured by: J.M.C.

TIME: 75° W MERIDIAN

W.A.T.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							A	3.7	A	3.8	4.0	4.0 H	3.9	C	C	(3.7)	3.5	A	A					
2								3.5	3.5	3.8	3.7	4.1	4.0	H	A	3.6	A	A	A					
3							3.6	3.6	3.6	A	A	4.0	(3.8)	3.9	(3.8) H	3.6	3.6	3.5	3.5					
4									3.6	3.7	A	3.9	3.9	3.7	3.9	3.7	3.6	3.5	A					
5							A	A	3.7	4.1	(4.0) H	(3.7) H	3.8	3.6	3.8 H	3.8	3.6	(3.6)	A					
6							K	(3.4) K	3.7 K	3.8 K	3.9 K	3.7 K	3.9 K	A K	3.6 K	3.6 K	3.6	A	A					
7								4.0	3.8	3.8	3.9	3.8	4.0	C	C	3.6	3.5	A						
8								A	(3.7)	3.6	C	3.9	A	A	3.7	C	C	C						
9							3.9	(3.5)	3.6	3.8	3.7	4.2	(3.9) H	(3.8) H	3.5	3.5	3.5	3.6	(3.8)					
10							(3.7)	(3.6)	3.5	3.7	3.9	3.9	4.0	4.0	(4.2)	(3.5)	A	3.5	A					
11								3.5	3.3	3.7	3.7	3.8	3.9	3.7	3.8	3.5	3.5	C	C					
12									A	3.4 H	(3.8)	(4.1)	(3.8)	3.8	3.6	3.7	3.4	3.4	4.0					
13								3.5	3.6	3.8	4.2	4.0	4.0	3.7	A	(3.6)	A	3.6	3.6					
14								3.5	3.7	A	A	3.9	(3.6)	3.7	4.0	3.6	3.6							
15								3.7	3.5	3.6	(4.0) H	4.0 H	3.9	A	3.6	3.8	(3.5)	3.5	(3.7)					
16								3.6	3.7	3.7	3.8	A	3.7	A	A	3.7	3.6	3.6	(3.7)					
17								(3.6)	(2.5)	(3.7)	3.7	A	3.6	4.0	3.7	3.6	3.5	A	A					
18							(3.8)	3.4	3.9	3.7	4.1	4.1 H	3.9	(3.9)	(3.7)	3.6	3.8	3.5	(4.0)					
19								C	C	3.8	C	C	A	A	3.7	3.5	A	A	A					
20							3.9	3.3	3.7	A	3.4	A	3.6	3.8	3.6	3.6	3.5	3.5	(3.6)					
21								A	3.6	3.8	4.0	(4.1)	C	A	A	3.8	3.6	A	A					
22							(3.7)	A	A	A	3.9	3.9	3.9	C	C	3.7	3.9	A	A					
23							A	A	3.9	A	3.7	3.9 H	(3.7) H	3.8	(3.9)	3.6	3.5	3.4	(3.5)					
24							(3.5)	3.6	3.6	3.6	3.7	4.0	A	3.7	3.7	(3.8)	A	A	A					
25								A	A	3.8	A	3.9	A	A	A	3.7	3.9	3.5						
26								(3.7)	3.7	3.7	(3.6)	3.3	A	4.0	3.8	3.8	3.8	3.5	(3.7)					
27							K	A K	3.7	3.6 K	3.5 K	A K	(3.9) K	(3.9) K	3.9 K	(4.0) K	(3.6) K	(3.7) K	A K					
28							(3.7)	3.4	3.6	3.8	3	C	C	3.8	3.8	3.6	3.7	(4.0)						
29							(3.3)	A	A	3.6	3.7	3.9	(3.9)	(3.7)	3.7	3.7	(3.6)	(3.4)	(3.6)					
30							(3.7)		(3.7)	(3.7)	A	A	A	3.9	3.7	(3.6)	A	A						
31																								
Sum																								
Median							3.7	3.6	3.6	3.7	3.8	3.9	3.9	3.8	3.7	3.6	3.6	3.5	3.7					

TABLE 65

IONOSPHERE DATA- 12

RESTRICTED

Washington, D.C. (Location) Ionosphere Station

National Bureau Of Standards (Institution)

Hourly values of E-M1500 for June (Month) 1945

Records measured by: J.M.C.

TIME: 75° W MERIDIAN W.A.T.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							A	A	A	A	A	(4.5)	(4.2)	C	C	4 0	(4.1)	A	A					
2							A	A	3 9	A	B	B	A	A	A	A	(4 1)	A	A					
3						A	A	A	(4 3)	A	A	A	A	A	A	A	(4 3)	A	A	A				
4							A	A	A	A	A	(4 4)	4 2	(4 2)	A	A	A	4 0	3 9	A				
5						A	(3 7)	A	A	A	(4 2)	A	(4 2)	(4 1)	(4 3)	(4 1)	4 0	(3 9)	A	(4 0)	K			
6						K	A K	(4 0) K	A K	A K	(4 5) K	B K	A K	A K	A K	A K	A	(4 1)	(3 8)	(3 9)	3 9			
7							A	A	A	A	A	A	A	C	C	A	A	(4 1)	(4 0)	A	C			
8						(4 1)	A	A	A	A	C	A	A	A	A	C	C	C	A	A				
9						C	(4 0)	A	(4 2)	(4 4)	A	B	4 2	(4 3)	4 1	4 0	4 2	4 1	(3 7)	4 0				
10						(3 7)	4 0	A	A	A	A	A	A	(4 2)	4 3	C	A	(4 1)	3 9	A				
11							A	(4 1)	A	(4 1)	(4 2)	(4 3)	A	(4 0)	(4 3)	A	B	C	C	C				
12						A	A	A	A	A	A	A	A	B	A	4 4	A	4 1	(4 3)	(3 8)				
13						A	A	A	A	A	A	B	4 3	4 1	(4 4)	C	A	A	A	A				
14							A	A	A	A	A	A	A	A	(4 5)	4 2	A	A	A	A				
15								A	A	A	(4 3)	A	A	A	A	A	A	4 1	A	A				
16								A	A	A	A	A	A	A	A	A	A	4 1	(4 2)	A				
17							A	A	A	A	A	(4 2)	(4 4)	(4 3)	A	A	A	A	A					
18							(3 9)	4 2	(4 3)	(4 1)	B	A	A	B	C	B	A	A	(4 0)					
19							A	C	C	A	C	C	A	A	4 3	A	A	A	A	A				
20						A	(4 0)	(3 9)	A	A	A	A	A	A	A	A	A	(4 1)	(3 9)	A				
21						A	A	A	A	4 3	(4 3)	(4 3)	C	A	A	(4 2)	A	A	(4 0)	A				
22						A	A	(4 0)	A	A	(4 3)	A	A	C	C	(4 2)	4 2	A	A	A				
23						A	A	(4 0)	(4 2)	A	A	(4 3)	4 2	(4 4)	(4 4)	A	(4 3)	A	A	A				
24						A	A	A	A	A	A	A	A	A	A	(4 3)	A	(4 1)	A	A				
25						A	A	(4 0)	A	A	A	A	A	A	A	A	A	A	(4 0)	(3 9)				
26						A	A	(4 0)	A	(4 3)	A	(3 9)	A	A	A	A	A	4 0	(4 0)	A				
27						A K	A K	A K	A K	A K	A K	A K	(4 3) K	(4 4) K	A K	(4 4) K	A K	(4 0) K	(4 3) K	A K	K			
28						A	A	A	A	A	C	C	C	A	A	4 1	(4 0)	(4 0)	(3 7)	A				
29						A	A	A	(4 0)	A	A	A	A	A	(4 2)	A	A	A	(4 2)	A				
30						A	A	A	A	A	A	A	A	A	A	A	A	3 9	C	A				
31																								
Sum																								
Median							4 0	4 0	4 2	4 3	4 3	4 3	4 2	4 2	4 3	4 2	4 2	4 1	4 0	3 9				

Table 66

Ionospheric Storminess, June 1945

Day	Ionospheric Character* 00-12 GCT	12-24 GCT	Principal Storms Beginning GCT	End GCT	Magnetic Character** 00-12 GCT	12-24 GCT
June						
1	2	2			1	1
2	2	1			0	1
3	1	1			1	1
4	2	1			0	1
5	1	1			1	2
6	4	4	0030	2100	3	3
7	3	2			2	3
8	3	3			3	3
9	2	2			3	2
10	1	3			3	2
11	2	1			2	1
12	1	1			1	1
13	1	0			1	1
14	2	0			1	1
15	1	3			2	3
16	2	0			2	1
17	1	0			1	1
18	1	3			2	3
19	1	3			2	3
20	1	1			2	1
21	1	2			1	1
22	1	1			1	1
23	2	1			1	1
24	1	1			1	1
25	1	1			2	1
26	1	1			2	1
27	2	3	0830	—/	3	2
28	4	3	——	1000	2	1
29	2	3			1	0
30	3	2			2	3

*Ionosphere character figure (I-figure) for ionosphere at [illegible] Washington, D.C., during 12-hour period, on an arbitrary scale of 0 to 9, 9 representing the greatest disturbance.

**Average for 12 hours of American magnetic K-figure, determined by a number of observatories, on an arbitrary scale of 0 to 9, 9 representing the greatest disturbance.

/ Dashes indicate continuance of disturbance.

Table 67. Sudden Ionosphere Dis[illegible] Observed at Washington, D.C.

Day	GCT Beginning	GCT End	Locations of transmitters	Relative intensity at minima*	Other phenomena
June 17	1452	1540	Chile, D.C., [illegible]land, Mexico, Brazil, Chile	0.05	Terr.mag. pulses 1450-1500

*Ratio of received field intensity during SID to average field intensity before, and after, for station W8XAL, 6080 kilocycles, 600 kilometers distant.

**As observed on Cheltenham magnetogram of the United States Coast and Geodetic Survey.

Table 68

Provisional Radio Propagation Quality Figures
May 1945
Compared with IRPL and ISIB Warnings and IRPL A-Zone Forecasts.

Day	North Atlantic								North Pacific					
	Quality Figure		IRPL Warning		ISIB Warning		A-Zone Forecast	Geomagnetic K_A	Quality Figure		IRPL Warning		A-Zone Forecast	Geomagnetic K_A
	01-12 GCT	13-24 GCT	01-12 GCT	13-24 GCT	01-12 GCT	13-24 GCT		01-12 GCT / 13-24 GCT	01-12 GCT	13-24 GCT	01-12 GCT	13-24 GCT		01-12 GCT / 13-24 GCT
1	6	6	X	X			(4)	2 2	7	7	X	X	(4)	2 2
2	6	6					(3)	3 2	7	6			(3)	3 2
3	6	7					(3)	2 2	6	6			(3)	2 2
4	6	7					(4)	2 1	7	6			(4)	2 1
5	6	7					5	2 1	8	7			5	2 1
6	6	7					5	1 2	7	6			5	1 2
7	6	7					5	0 1	7	7			5	0 1
8	6	7					5	2 1	7	7			5	2 1
9	6	7					5	1 3	7	7			5	1 3
10	6	7					5	2 2	7	7			5	2 2
11	(4)	5	X	X			5	3 3	6	6	X	X	5	3 3
12	5	6	X	X	X	X	5	2 2	6	6	X	X	5	2 2
13	6	6					6	2 2	6	6			6	2 2
14	6	7					6	1 2	7	6			6	1 2
15	6	7					6	1 1	7	7			6	1 1
16	6	7					5	1 2	7	7			5	1 2
17	6	7					5	2 2	7	7			5	2 2
18	6	6					6	1 3	7	7			6	1 3
19	6	6					6	2 2	7	7			6	2 2
20	6	6	X	X			5	2 1	7	7	X	X	5	2 1
21	6	6					(4)	1 2	6	7			(4)	1 2
22	6	7					5	1 1	6	8			5	1 1
23	6	7					6	2 1	7	7			6	2 1
24	6	7					5	2 2	7	7			5	2 2
25	5	6					6	3 2	7	8			6	3 2
26	7	7					5	2 2	7	7			5	2 2
27	7	7					5	1 2	7	7			5	1 2
28	7	7					5	1 2	7	7			5	1 2
29	6	7					5	2 2	7	8			5	2 2
30	7	7					5	2 3	7	8			5	2 3
31	5	6					6	2 2	7	7			6	2 2
Score:														
H			1		0		0				0		0	
M			0		1		1				0		0	
G			27		29		25				27		26	
(S)			1		1		0				0		0	
S			2		0		5				4		5	

Quality Figure and Forecast Scale:
1 = Useless
2 = Very poor
3 = Poor
4 = Poor to fair
5 = Fair
6 = Fair to good
7 = Good
8 = Very good
9 = Excellent

Symbols:
X = Warning given.
H = Quality 4 or worse on day or half-day following warning.
M = Quality 4 or worse on day or half-day following no warning.
G = Quality 5 or better on day following no warning.
(S) = Quality 5 on day following warning.
S = Quality 6 or better on day following warning.
( )= Quality or forecast 4 or worse (disturbed)

Geomagnetic K_A on the standard scale of 0 to 9, 9 representing the greatest disturbance.

Table 69

Revised Radio Propagation Quality Figures
North Pacific
Compared with IRPL Warnings and IRPL A-Zone Forecasts.

Day	November 1944 Quality Figure 01-12 GCT	Quality Figure 13-24 GCT	IRPL Warning 01-12 GCT	IRPL Warning 13-24 GCT	A-Zone Forecast	Geomagnetic K_A 01-12 GCT	Geomagnetic K_A 13-24 GCT	December 1944 Quality Figure 01-12 GCT	Quality Figure 13-24 GCT	IRPL Warning 01-12 GCT	IRPL Warning 13-24 GCT	A-Zone Forecast	Geomagnetic K_A 01-12 GCT	Geomagnetic K_A 13-24 GCT
1	7	6	X	X	5	0	1	6	6			5	1	2
2	5	6			5	1	0	6	6			(4)	3	3
3	6	5			6	1	2	6	6	X	X	(4)	3	2
4	6	7		X	5	3	2	6	6	X	X	5	2	1
5	5	6	X	X	5	3	3	6	6			5	2	1
6	6	6	X	X	5	3	1	6	6			6	2	1
7	6	6	X	X	(4)	1	2	6	6			6	1	0
8	5	6	X	X	(4)	2	0	6	6			5	1	1
9	5	5			5	2	1	6	7			6	2	2
10	(4)	(4)			(4)	1	2	6	6			6	1	1
11	6	6			(4)	1	1	6	5	X	X	5	1	1
12	5	6			(4)	1	0	6	6			5	1	1
13	5	6			5	0	0	6	6	X	X	6	2	3
14	5	5			(4)	1	1	6	5	X	X	6	3	1
15	6	6			(4)	1	0	5	(4)	X	X	5	1	2
16	6	5			5	2	1	5	(2)	X	X	(4)	4	6
17	5	6			5	0	1	(2)	(3)	X	X	(4)	4	5
18	6	5	X	X	5	2	2	(3)	(3)	X	X	5	4	2
19	6	6	X	X	(4)	3	1	(4)	(3)	X	X	5	2	1
20	5	6		X	(4)	3	3	5	(4)	X	X	5	2	2
21	6	5	X	X	5	1	0	5	6			6	2	2
22	6	5			5	0	1	5	5			6	1	2
23	5	6			5	1	1	5	5			6	1	1
24	7	6			(4)	1	0	6	(4)			6	1	1
25	6	6			5	0	1	5	6			5	0	0
26	6	5			(4)	2	1	6	5	X	X	5	1	2
27	6	7	X	X	(4)	1	1	6	(4)		X	5	4	4
28	6	6			5	1	1	5	(3)	X	X	5	3	2
29	5	6			6	1	1	(4)	(4)			(4)	2	1
30	6	6			6	1	2	5	(4)	X	X	(4)	3	2
31								(4)	(4)	X	X	5	1	1

Score:			
H	0	1	10	4
M	1	0	2	8
G	18	18	13	17
(S)	5	5	3	0
S	6	6	3	2

Quality Figure and Forecast Scale:
1 = Useless
2 = Very poor
3 = Poor
4 = Poor to fair
5 = Fair
6 = Fair to good
7 = Good
8 = Very good
9 = Excellent

Symbols:
X = Warning given.
H = Quality 4 or worse on day or half-day following warning.
M = Quality 4 or worse on day or half-day following no warning.
G = Quality 5 or better on day following no warning.
(S) = Quality 5 on day following warning.
S = Quality 6 or better on day following warning.
( ) = Quality or forecast 4 or worse (disturbed)

Geomagnetic K_A on the standard scale of 0 to 9, 9 representing the greatest disturbance.

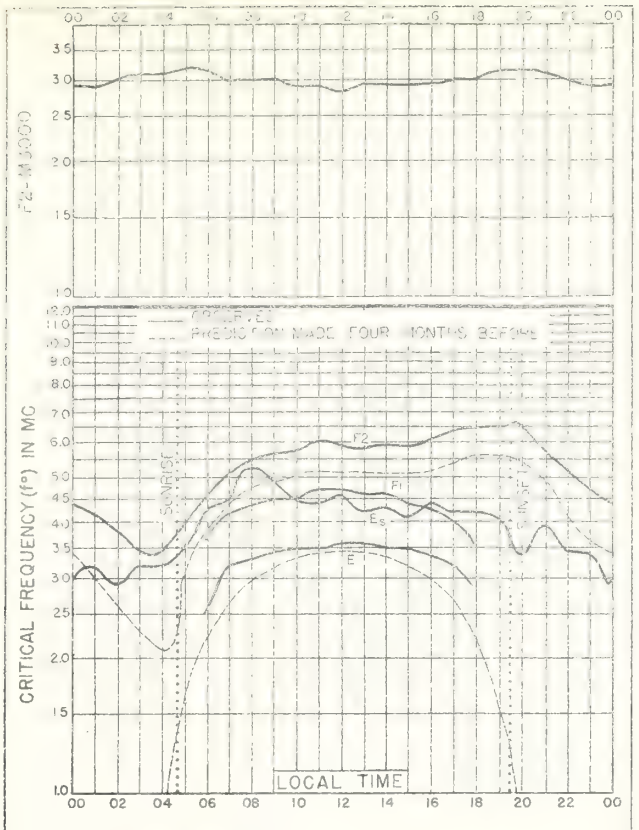

Fig. 1. WASHINGTON, D. C.
39.0°N, 77.5°W
JUNE, 1945

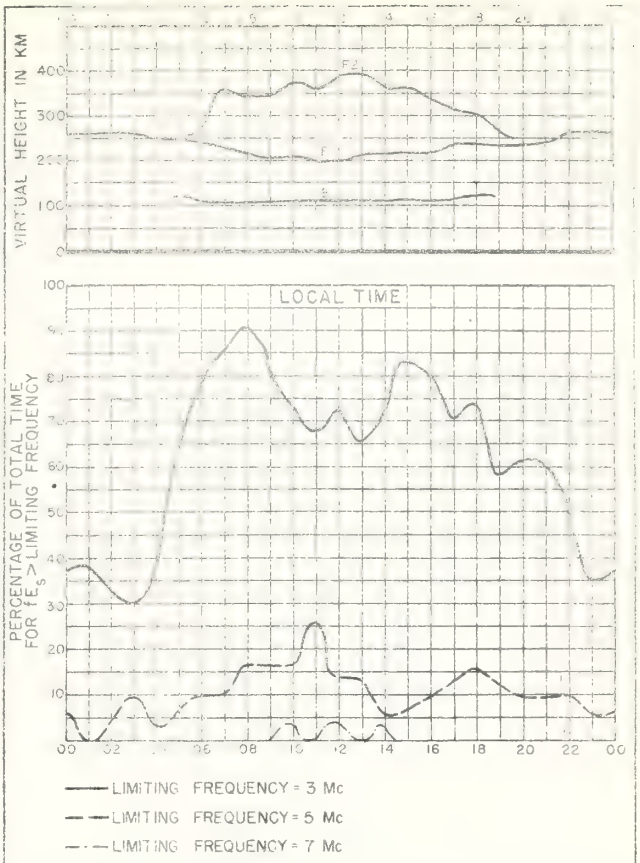

Fig. 2. WASHINGTON, D. C.
JUNE, 1945

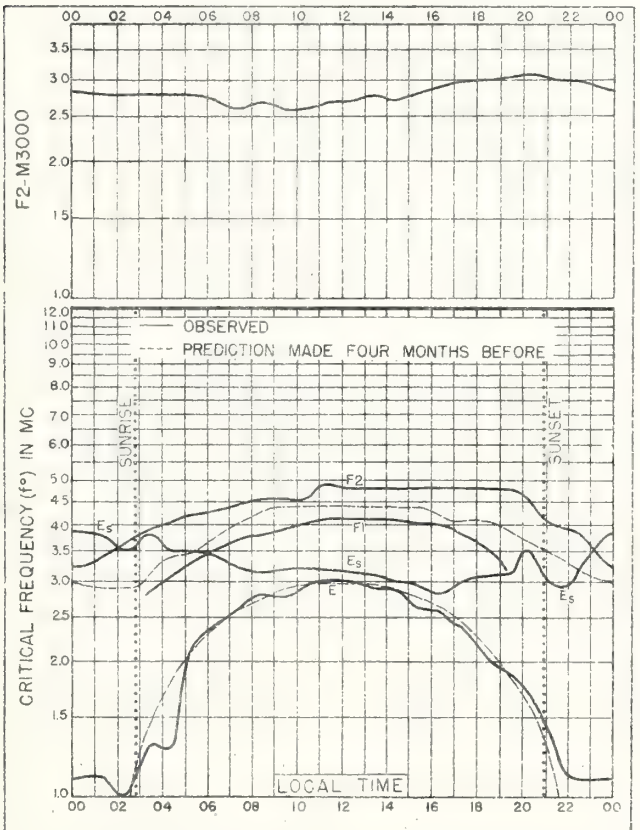

Fig. 3. FAIRBANKS, ALASKA
64.9°N, 147.8°W
MAY, 1945

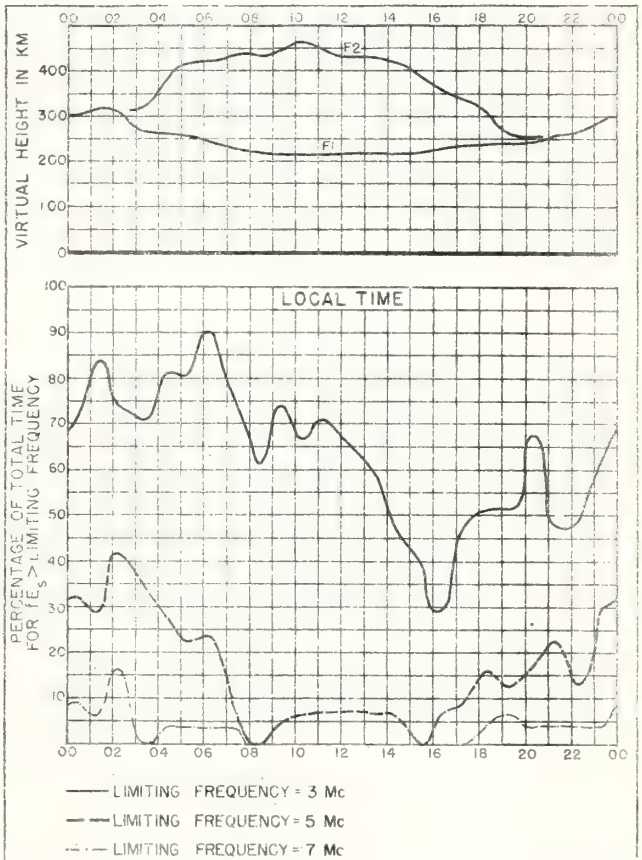

Fig. 4. FAIRBANKS, ALASKA
MAY, 1945

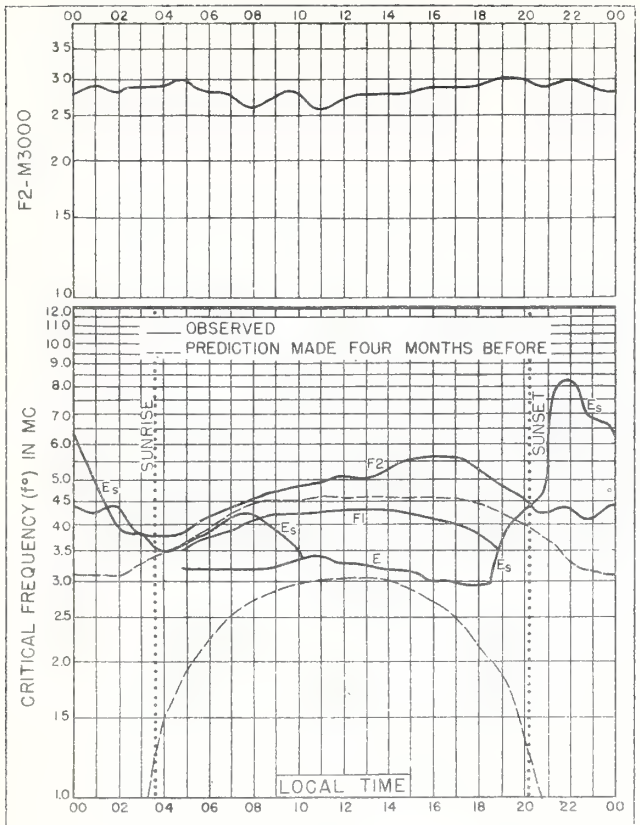

Fig. 5 CHURCHILL, CANADA
58.8°N, 94.2°W MAY, 1945

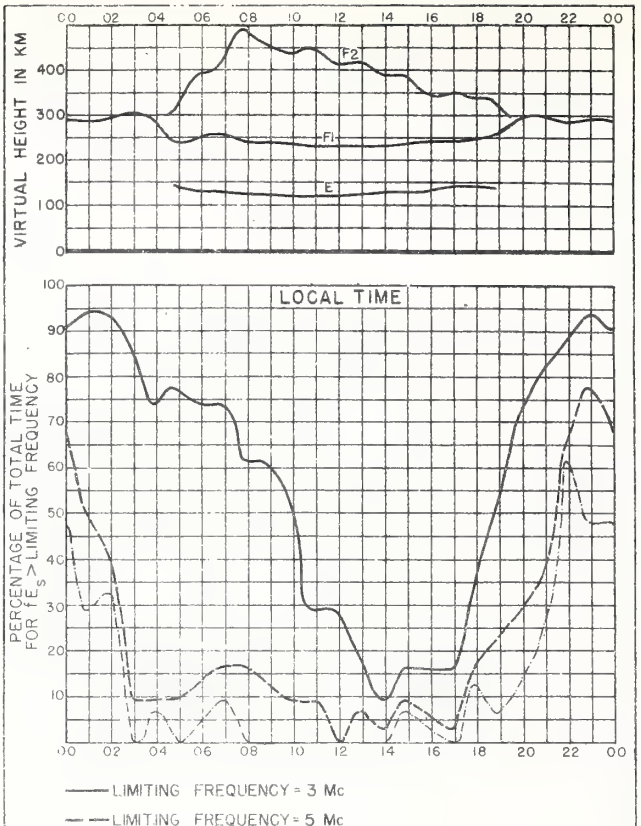

Fig. 6 CHURCHILL, CANADA MAY, 1945

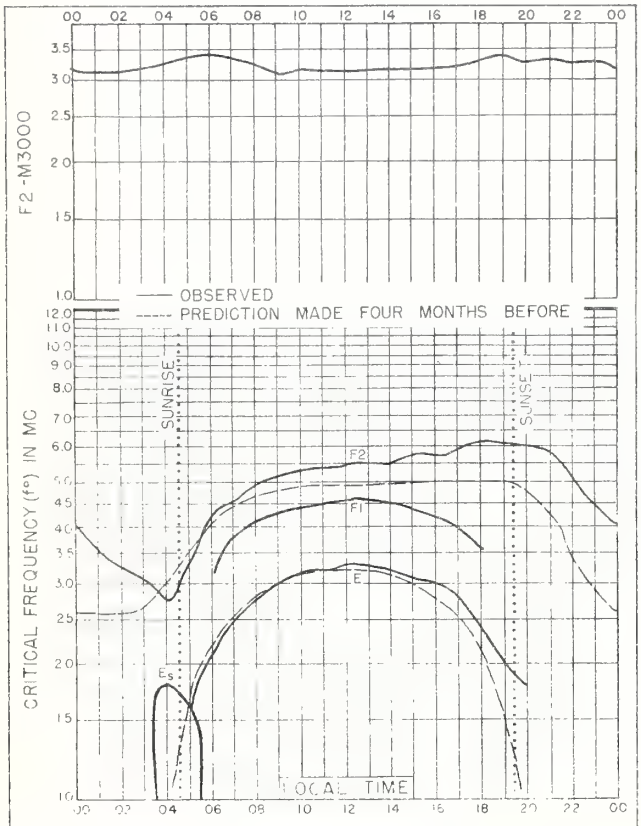

Fig. 7 ST. JOHN'S, NEWFOUNDLAND
47.7°N, 52.7°W MAY, 1945

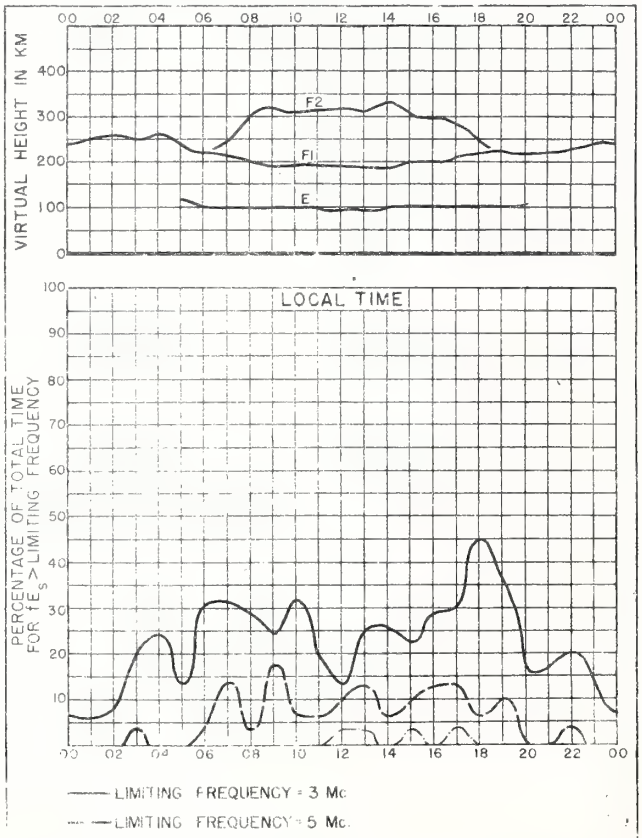

Fig. 8 ST. JOHN'S, NEWFOUNDLAND MAY, 1945

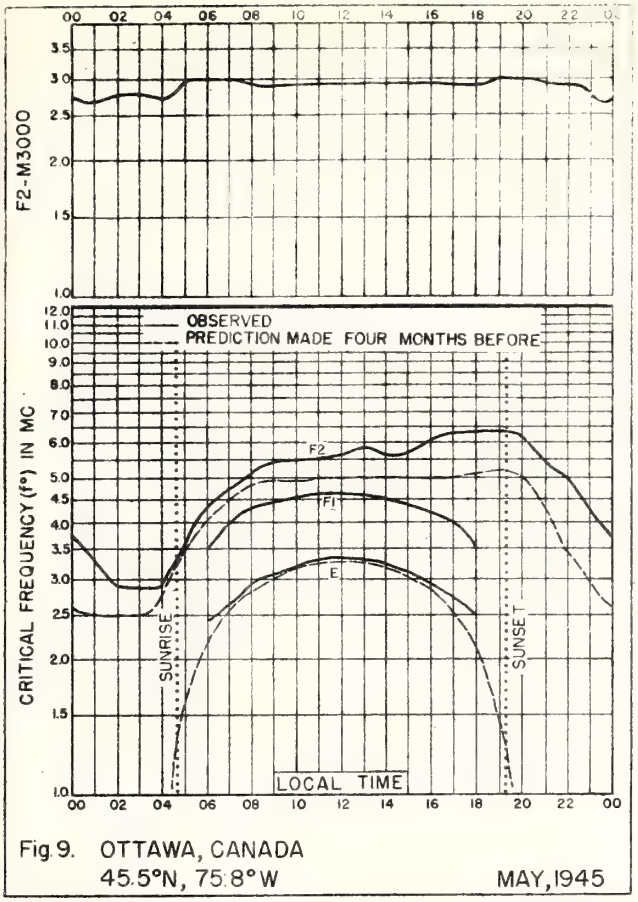

Fig. 9. OTTAWA, CANADA
45.5°N, 75.8°W MAY, 1945

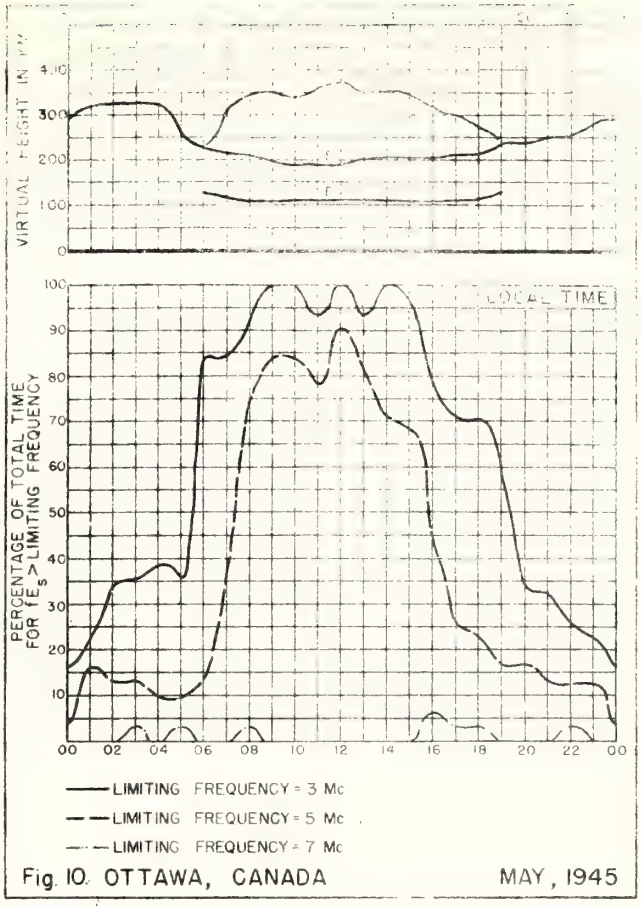

Fig. 10. OTTAWA, CANADA MAY, 1945

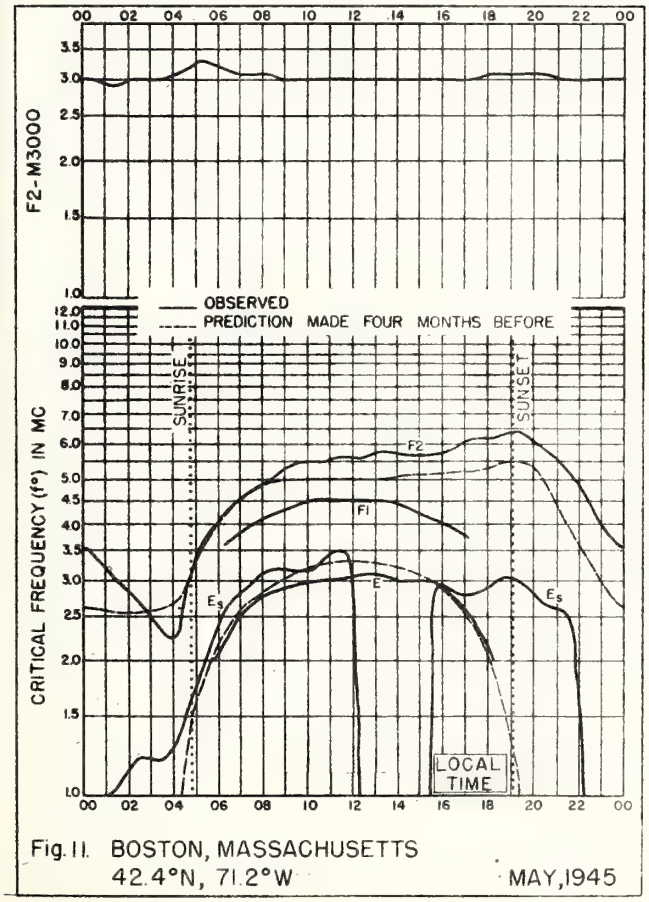

Fig. 11. BOSTON, MASSACHUSETTS
42.4°N, 71.2°W MAY, 1945

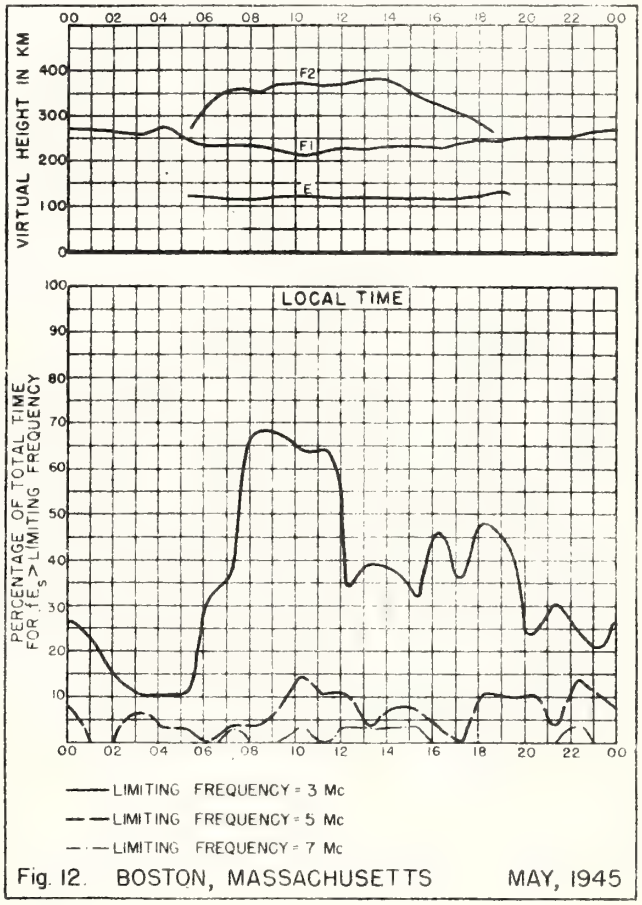

Fig. 12. BOSTON, MASSACHUSETTS MAY, 1945

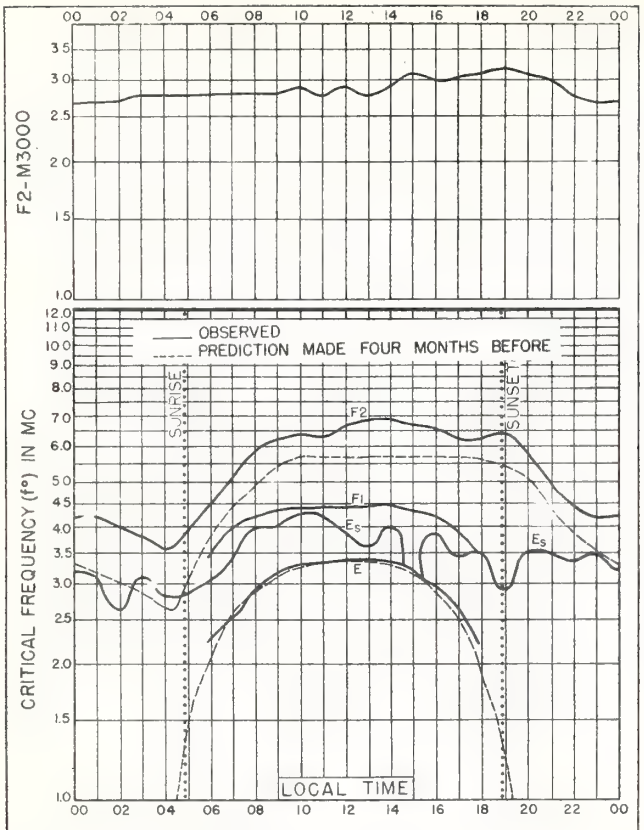

Fig. 13. SAN FRANCISCO, CALIFORNIA
37.4°N, 122.2°W MAY, 1945

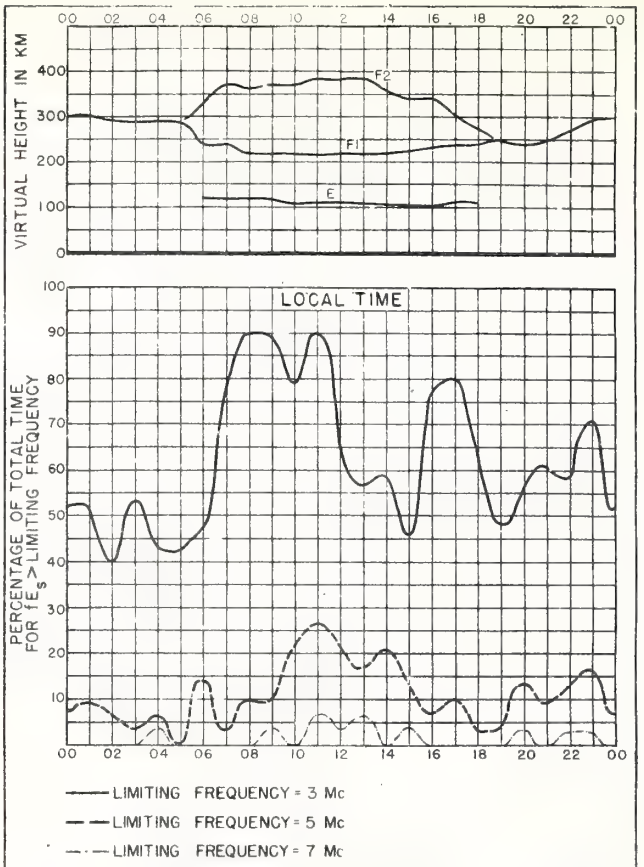

Fig. 14. SAN FRANCISCO, CALIFORNIA MAY, 1945

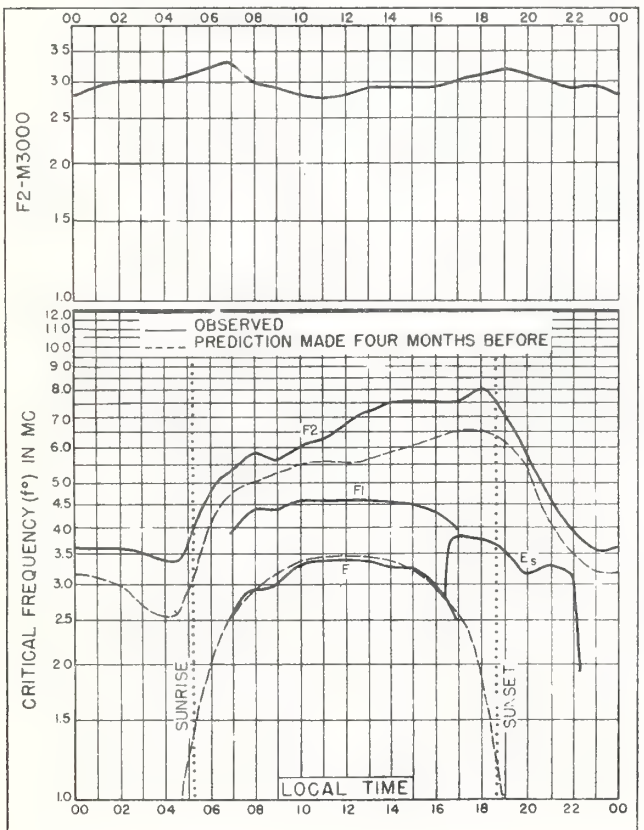

Fig. 15. BATON ROUGE, LOUISIANA
30.5°N, 91.2°W MAY, 1945

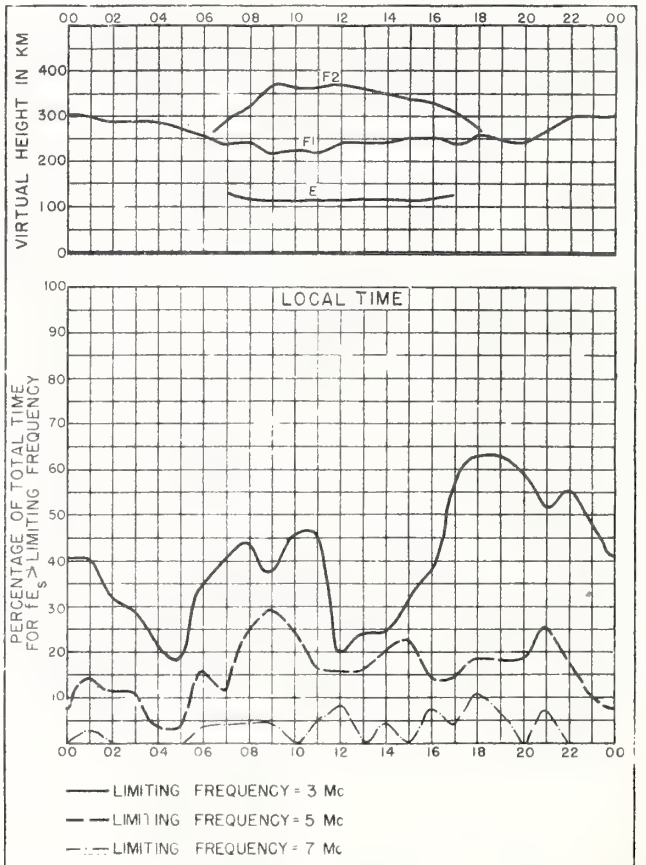

Fig. 16. BATON ROUGE, LOUISIANA MAY, 1945

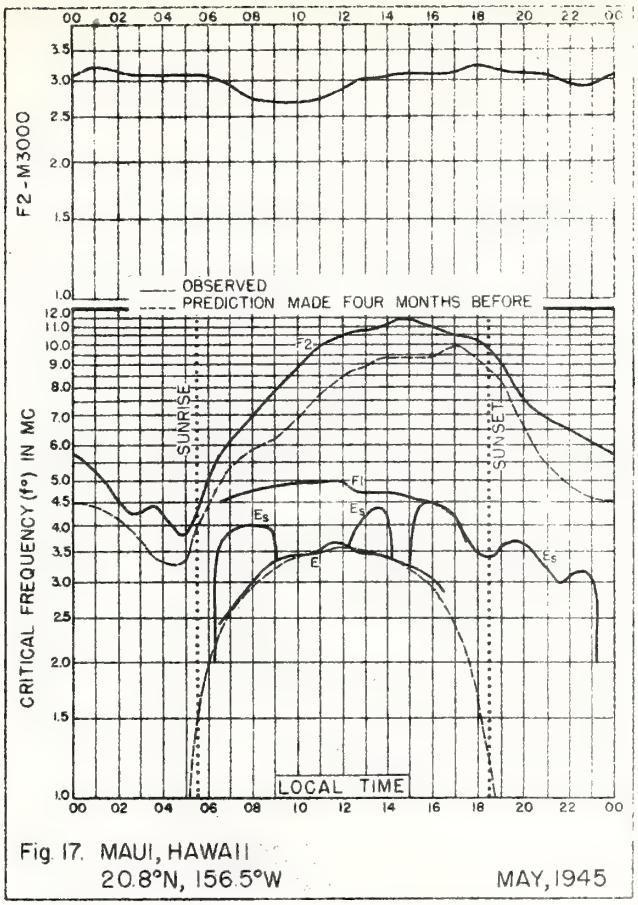

Fig. 17. MAUI, HAWAII
20.8°N, 156.5°W
MAY, 1945

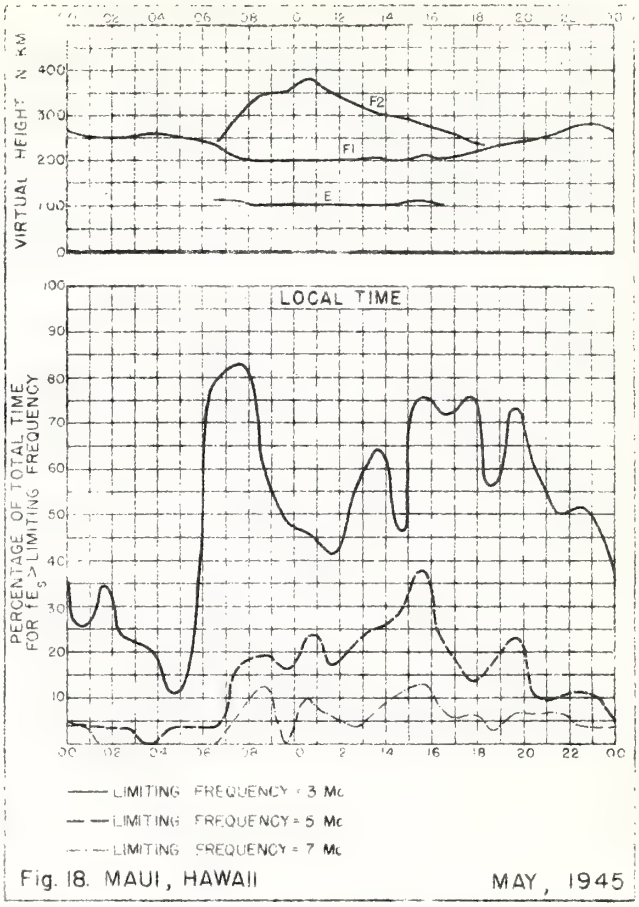

Fig. 18. MAUI, HAWAII
MAY, 1945

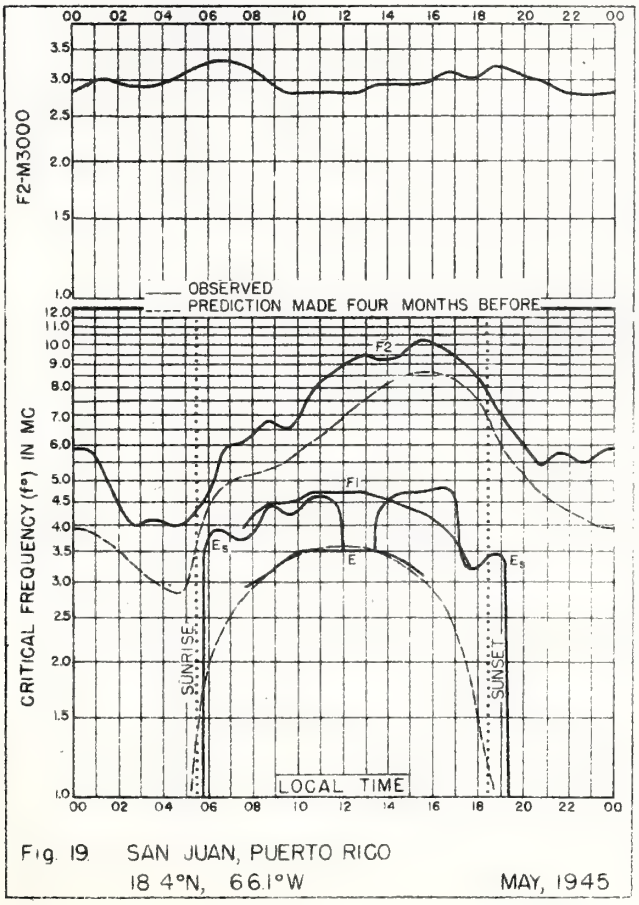

Fig. 19. SAN JUAN, PUERTO RICO
18.4°N, 66.1°W
MAY, 1945

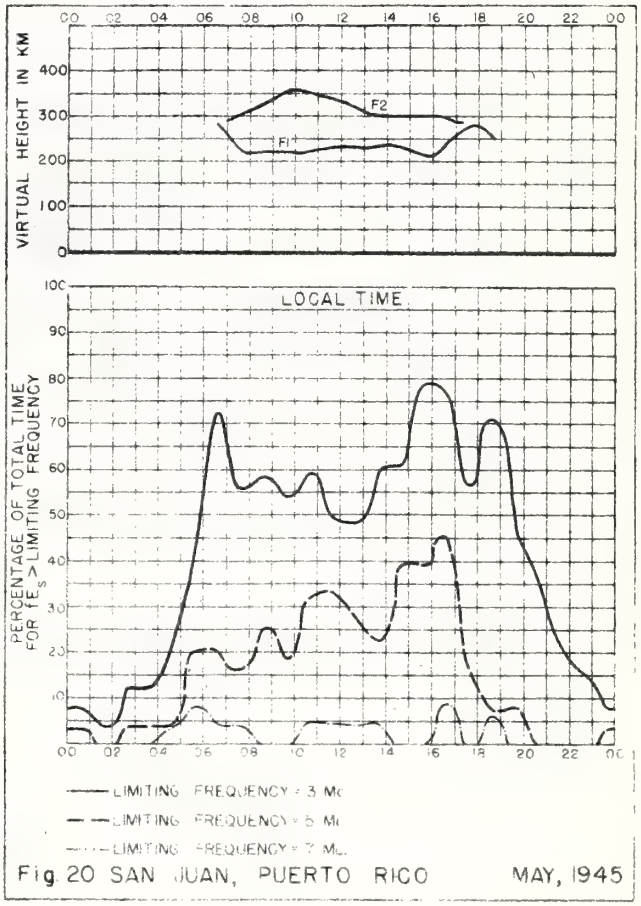

Fig. 20 SAN JUAN, PUERTO RICO
MAY, 1945

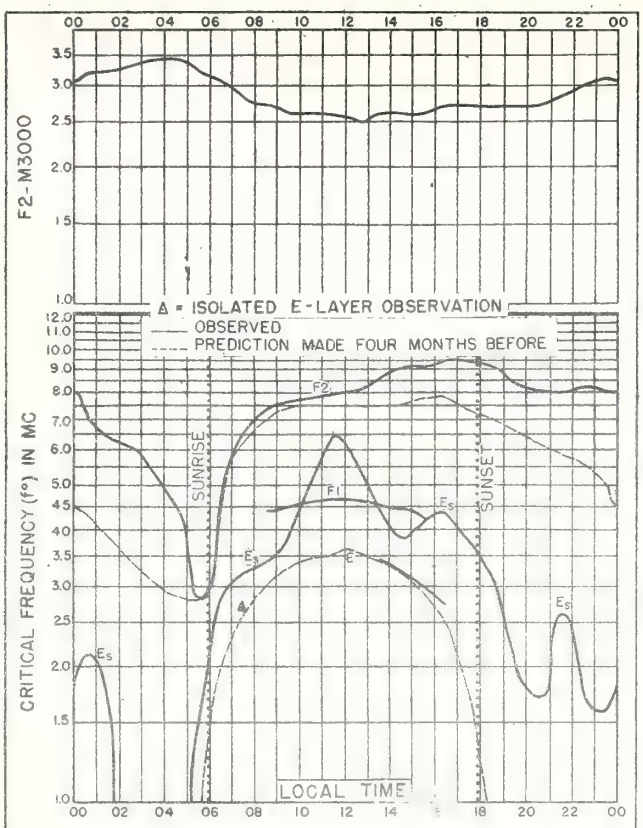

Fig. 21. CHRISTMAS I.
2.0°N, 157.0°W
MAY, 1945

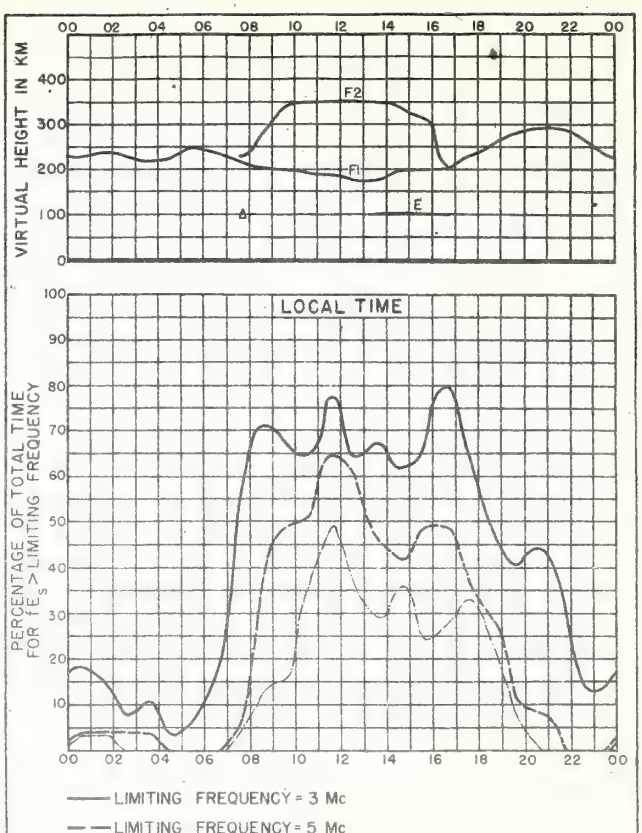

Fig. 22. CHRISTMAS I.
MAY, 1945

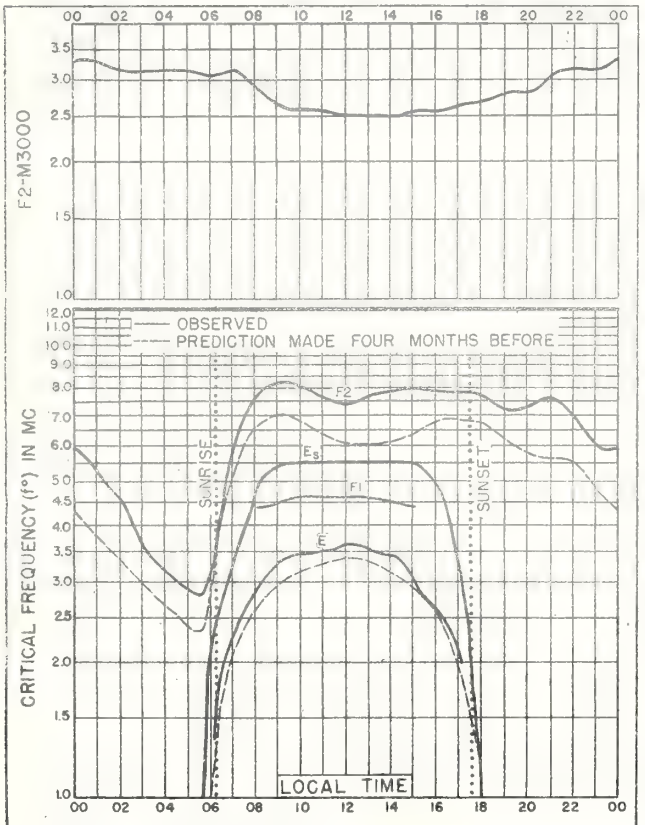

Fig. 23. HUANCAYO, PERU
12.0°S, 75.3°W
MAY, 1945

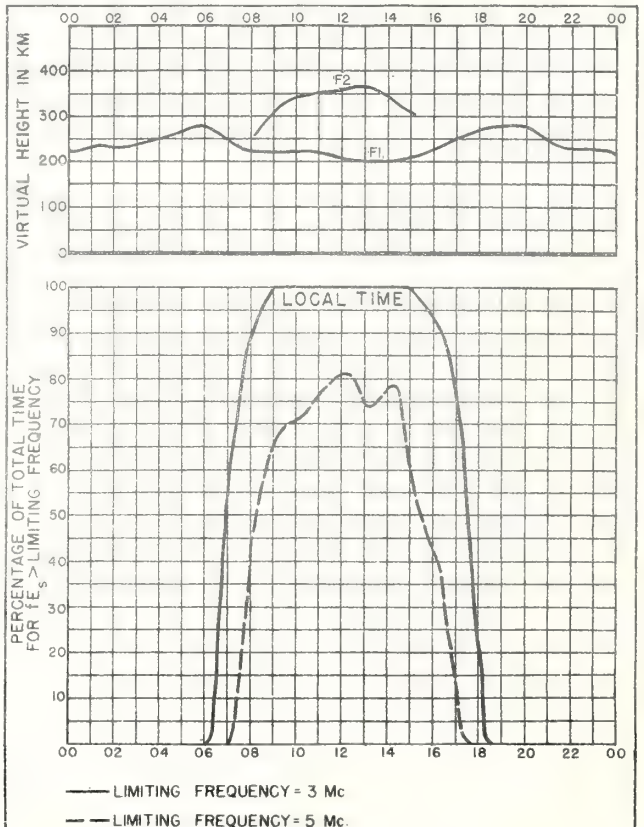

Fig. 24. HUANCAYO, PERU
MAY, 1945

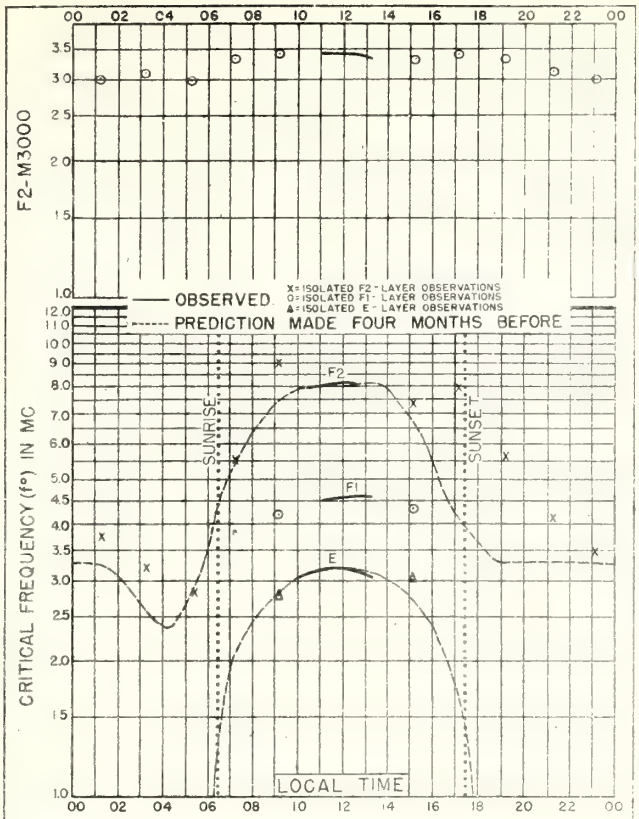

Fig. 25. RAROTONGA I.
21.4°S, 159.6°W
MAY, 1945

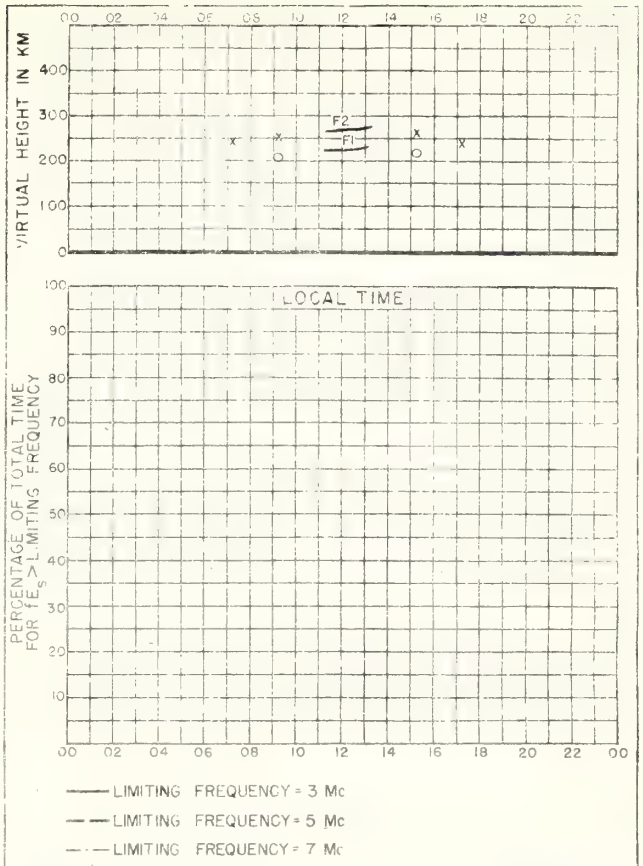

Fig. 26. RAROTONGA I.
MAY, 1945

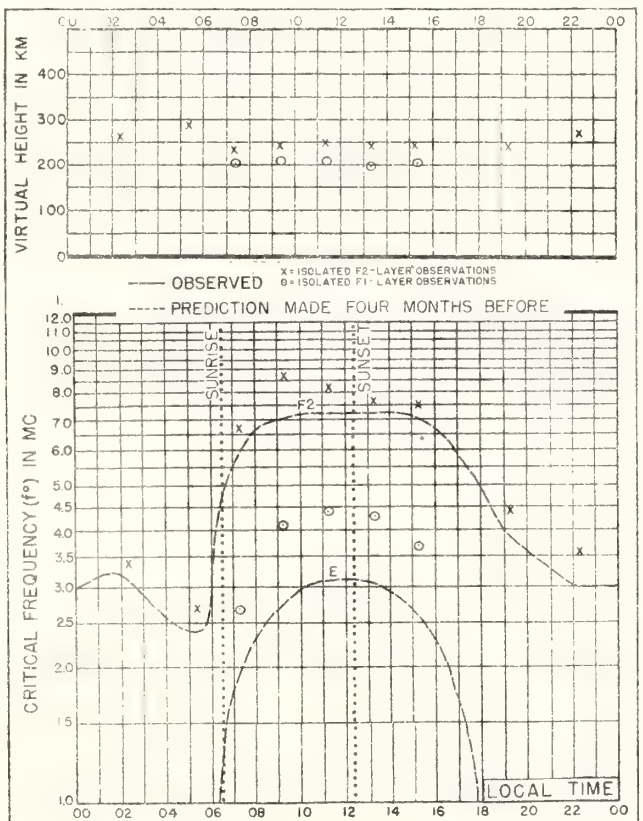

Fig. 27. PITCAIRN I.
25.0°S 130.0°W
MAY, 1945

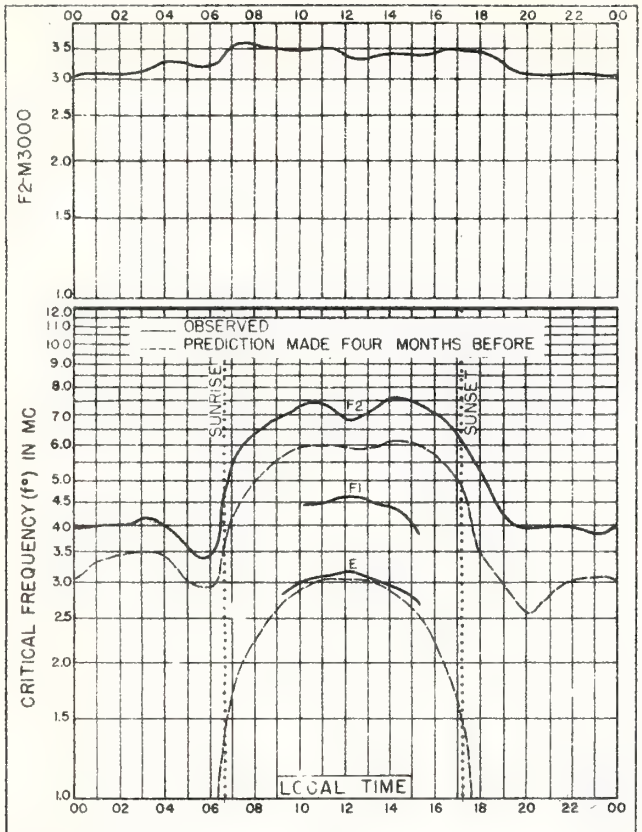

Fig. 28. BRISBANE, Q., AUSTRALIA
27.5°S, 153.0°E MAY, 1945

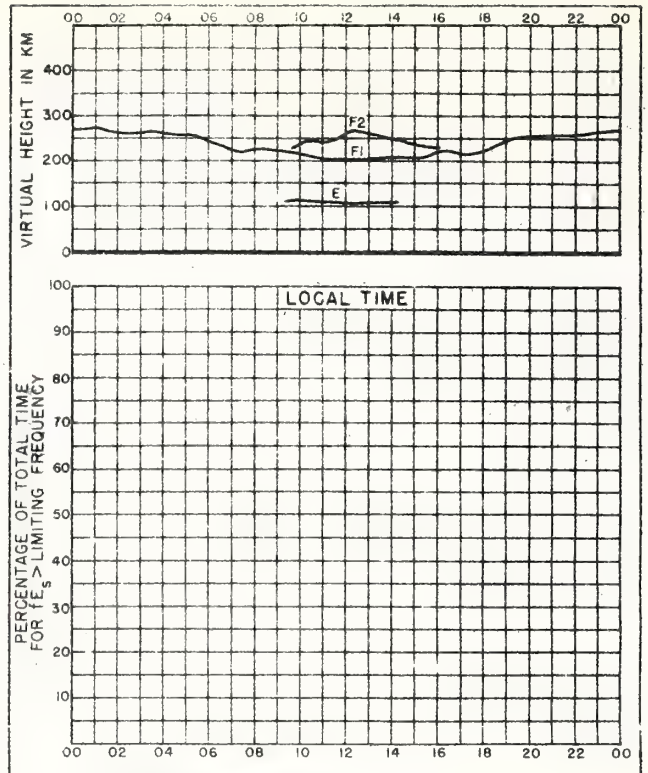

Fig. 29. BRISBANE, Q. AUSTRALIA MAY, 1945

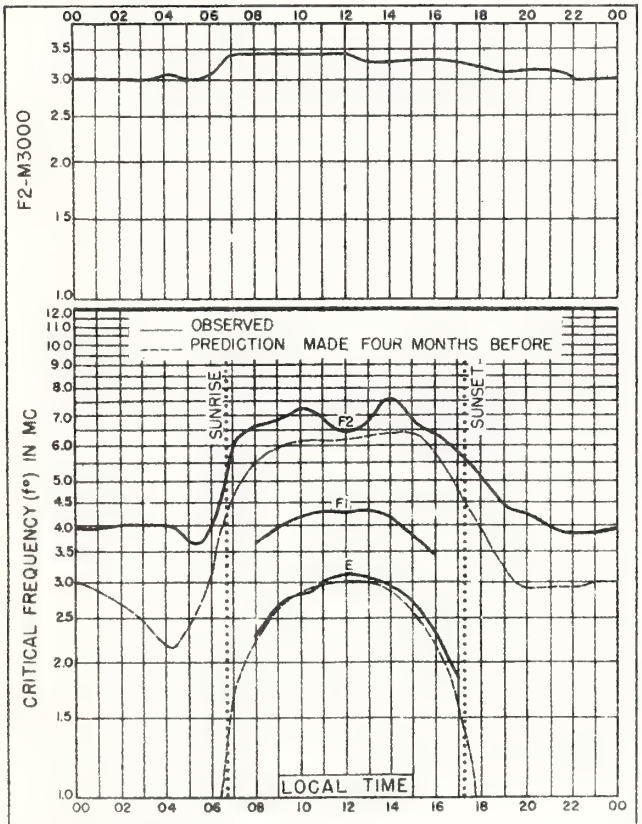

Fig. 30. KERMADEC I
29.2°S, 177.9°W MAY, 1945

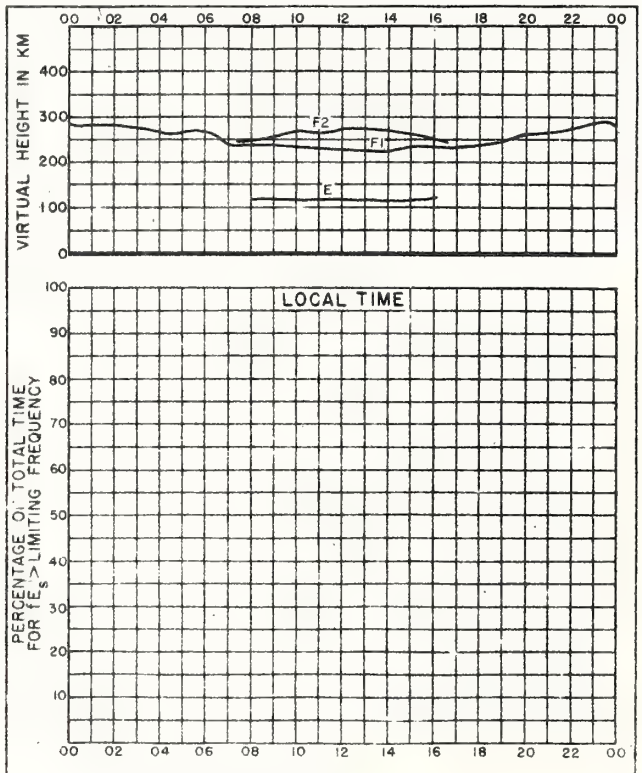

Fig. 31. KERMADEC IS MAY, 1945

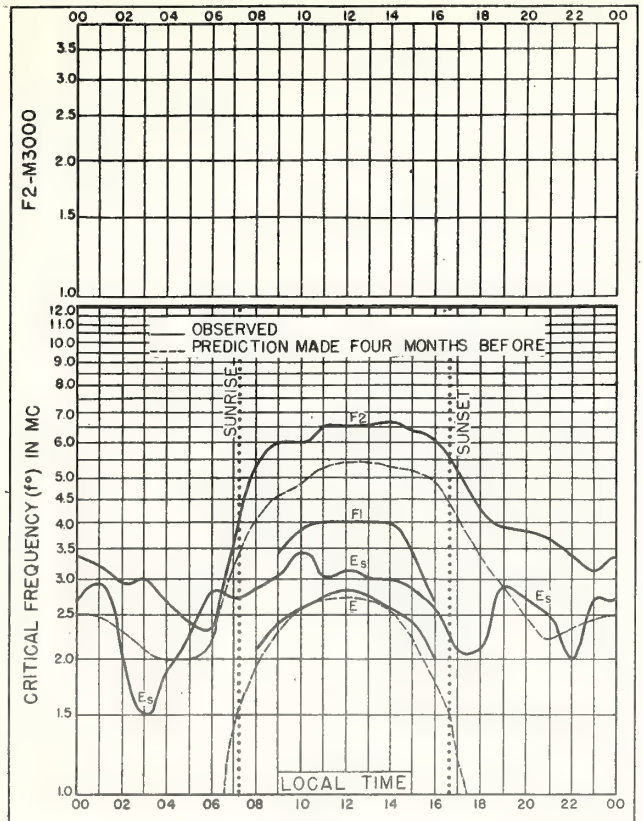

Fig. 32. CHRISTCHURCH, NEW ZEALAND
43.5°S, 172.6°E MAY, 1945

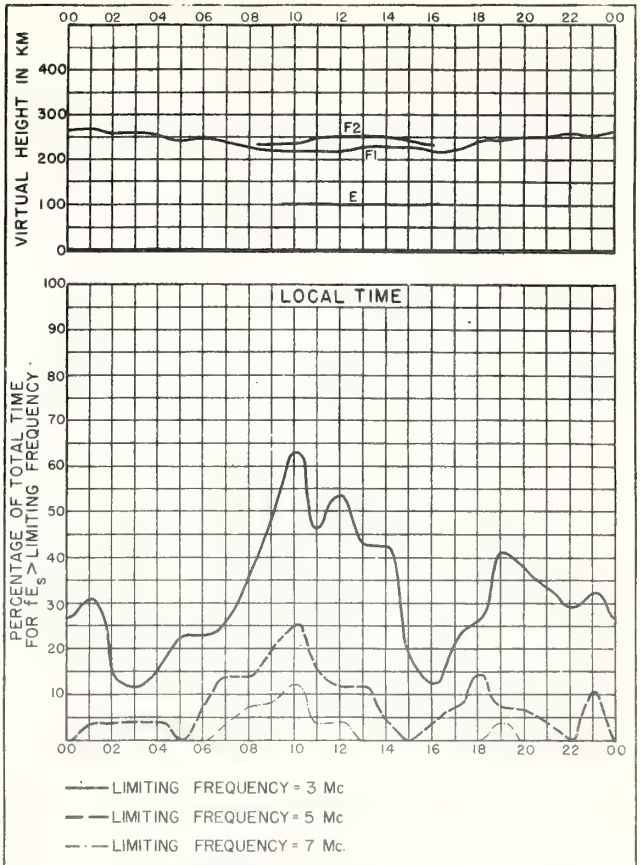

Fig. 33 CHRISTCHURCH, NEW ZEALAND MAY, 1945

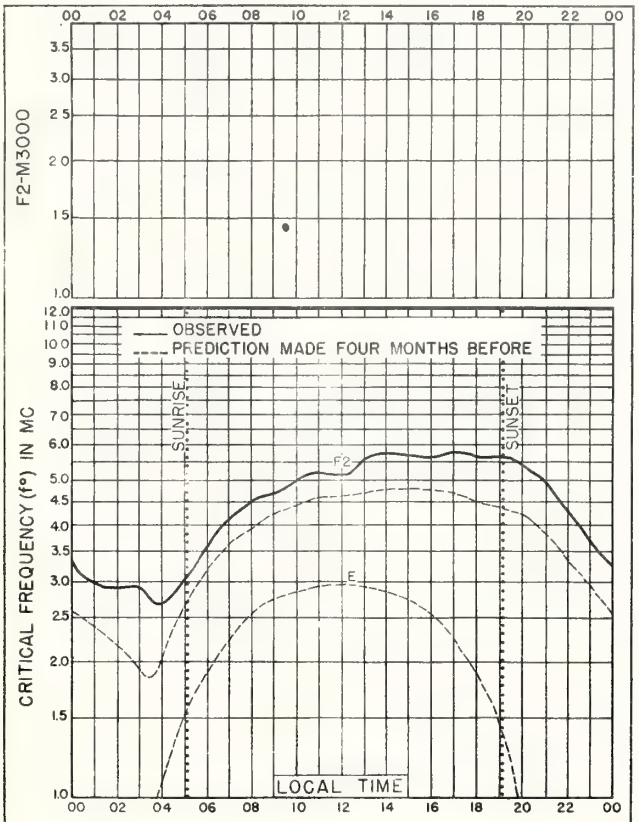

Fig. 34. BURGHEAD, SCOTLAND
57.7°N, 3.5°W APRIL, 1945

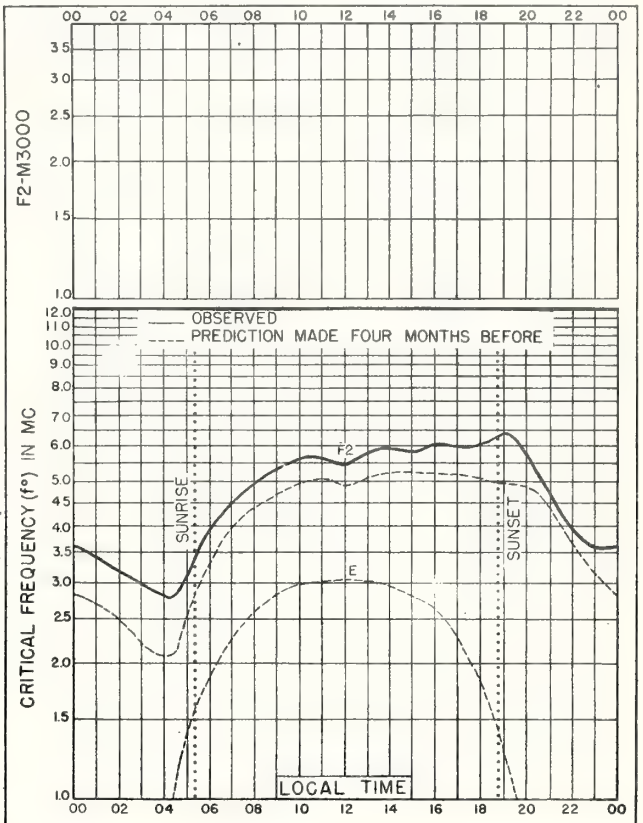

Fig. 35. SLOUGH, ENGLAND
51.5°N, 0.6°W APRIL, 1945

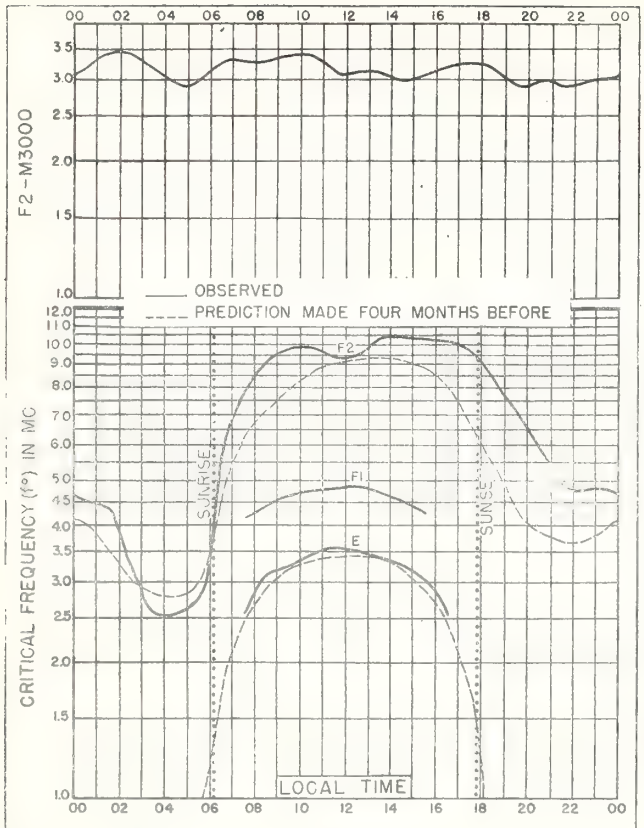

Fig. 36. CAPE YORK, Q. AUSTRALIA
11.0°S, 142.4°E APRIL, 1945

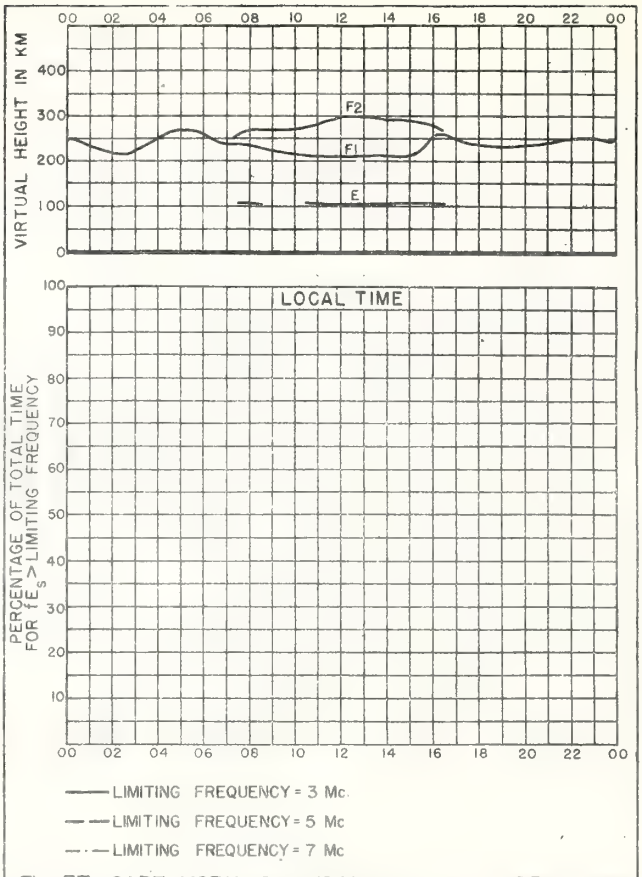

Fig. 37. CAPE YORK, Q AUSTRALIA APRIL, 1945

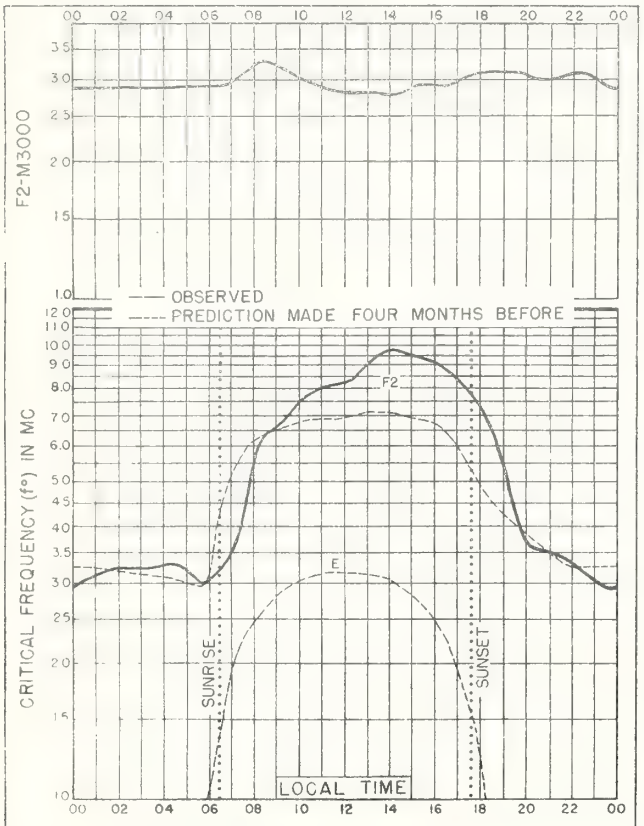

Fig. 38. SIMONSTOWN, UNION OF S. AFRICA
33.9°S, 18.7°E APRIL, 1945

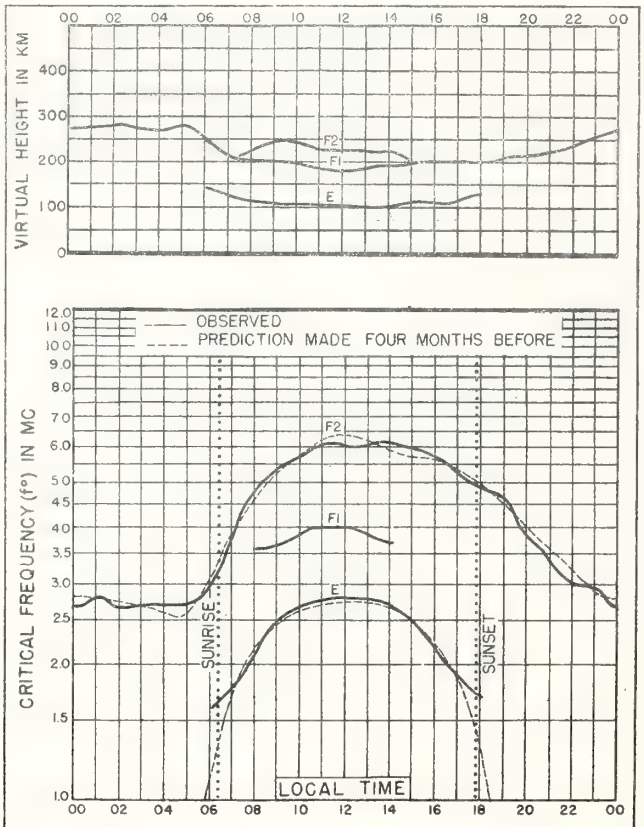

Fig. 39. SVERDLOVSK, U.S.S.R.
56.7°N, 61.1°E MARCH, 1945

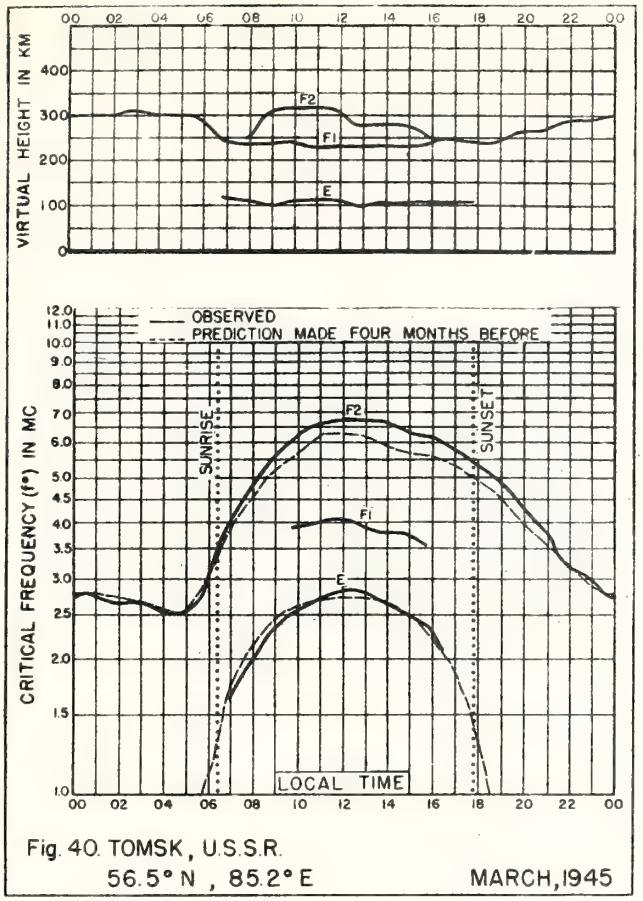

Fig. 40. TOMSK, U.S.S.R.
56.5° N , 85.2° E MARCH, 1945

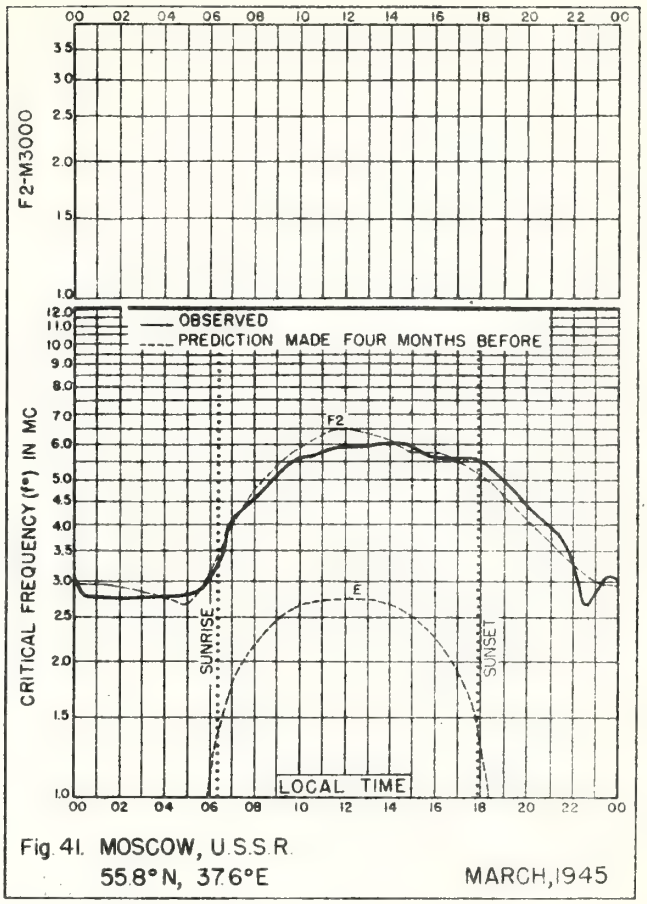

Fig. 41. MOSCOW, U.S.S.R.
55.8° N, 37.6° E MARCH, 1945

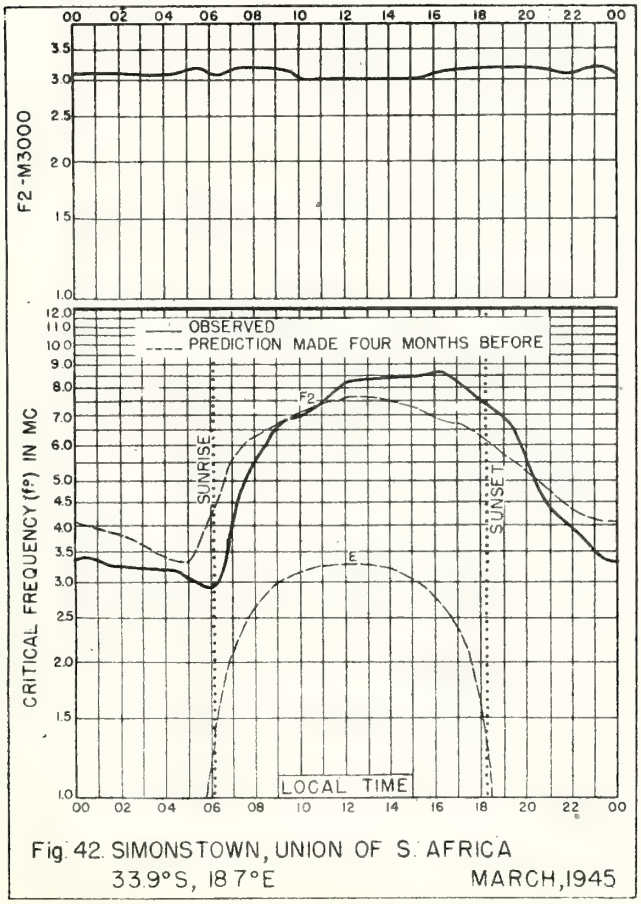

Fig. 42. SIMONSTOWN, UNION OF S. AFRICA
33.9° S, 18.7° E MARCH, 1945

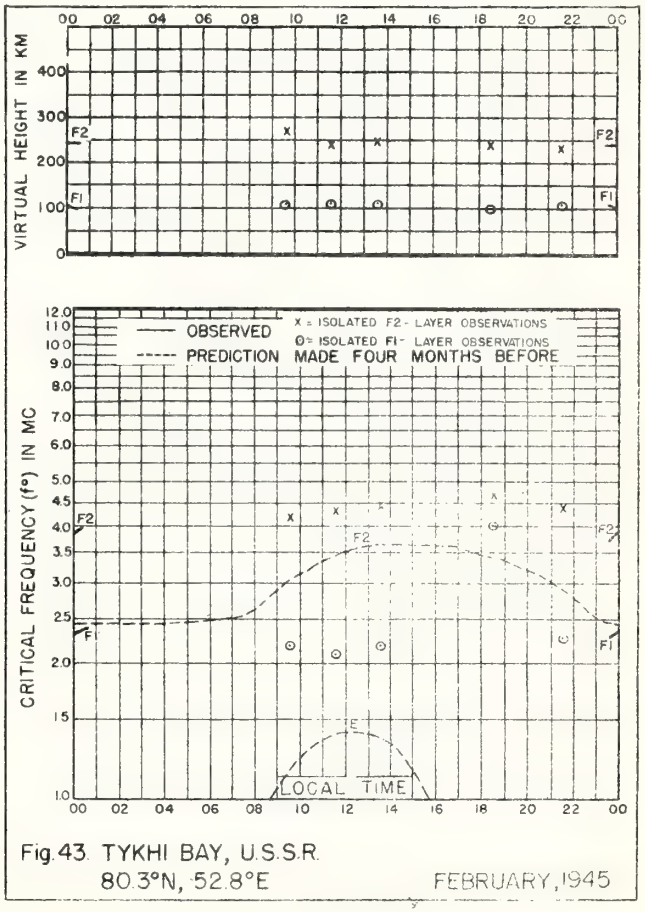

Fig. 43. TYKHI BAY, U.S.S.R.
80.3° N, 52.8° E FEBRUARY, 1945

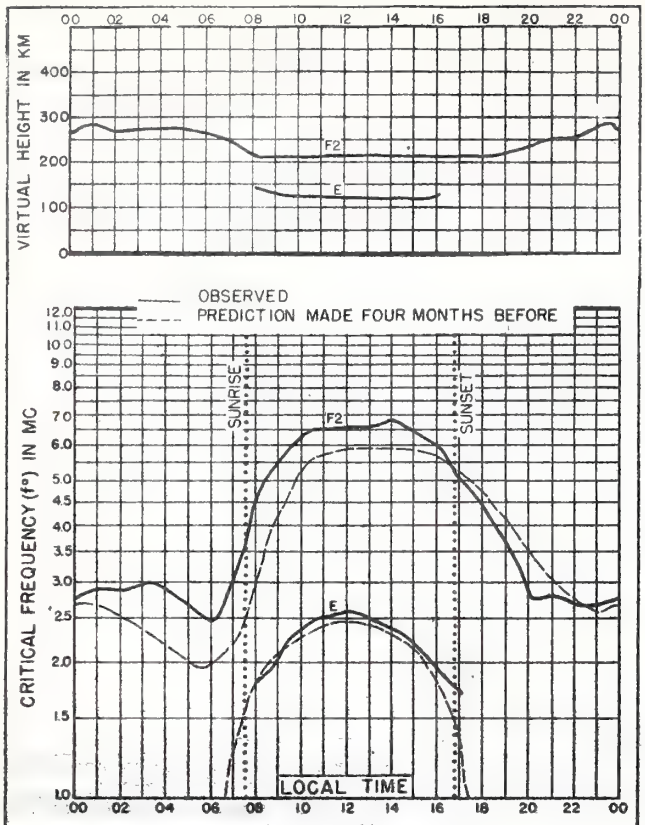

Fig. 44. SVERDLOVSK, U. S. S. R.
56.7°N, 61.1°E FEBRUARY, 1945

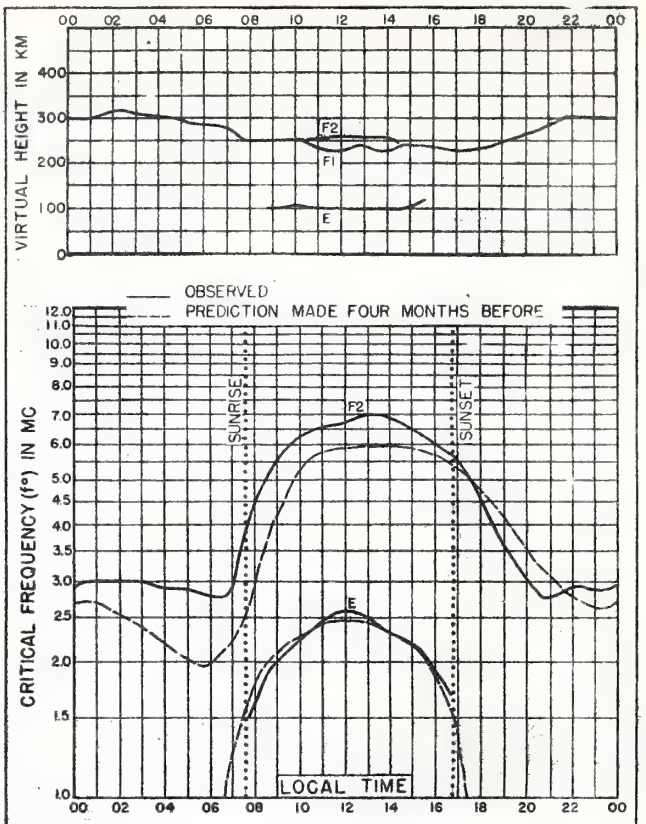

Fig. 45. TOMSK, U. S. S. R.
56.5°N, 85.2°E FEBRUARY, 1945

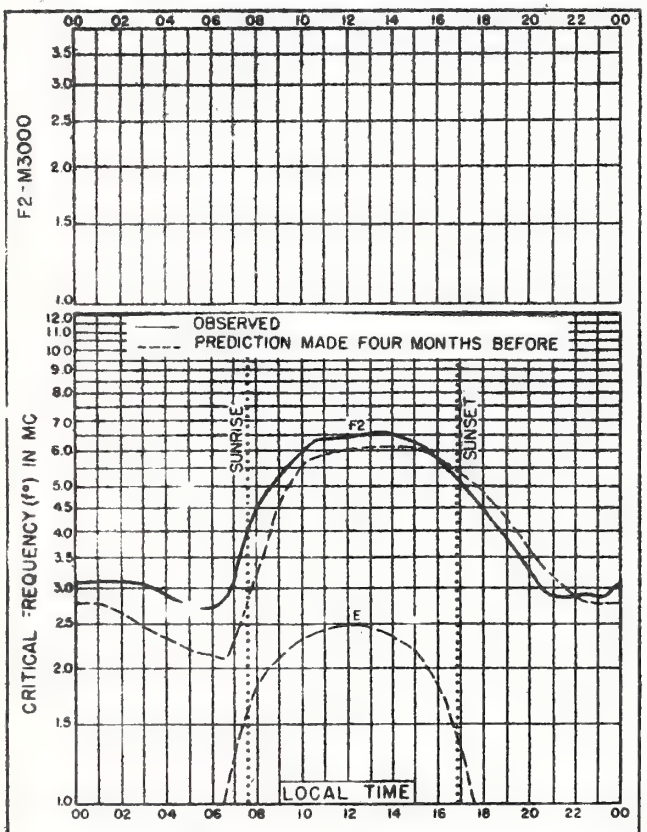

Fig. 46. MOSCOW, U. S. S. R.
55.8°N, 37.6°E FEBRUARY, 1945

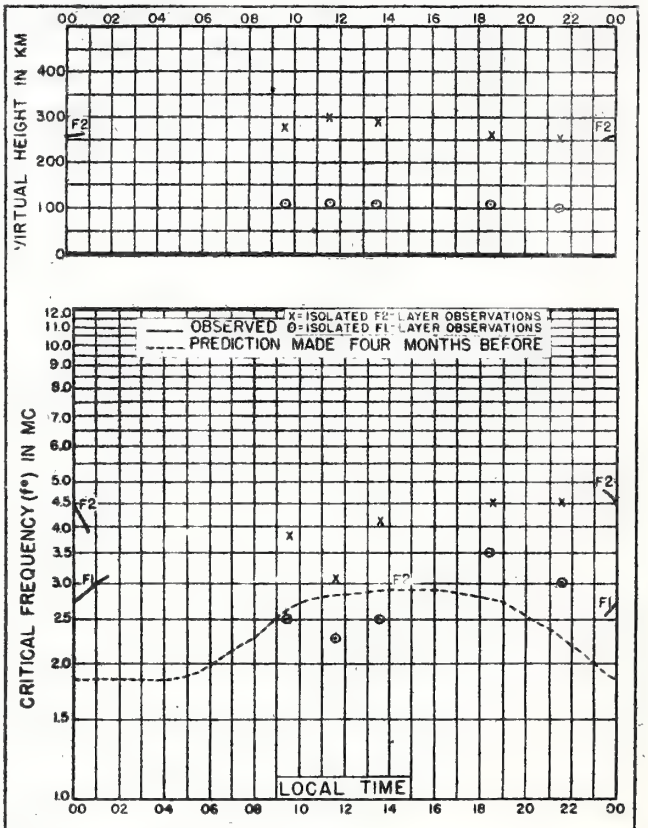

Fig. 47. TYKHI BAY, U. S. S. R.
80.3°N, 52.8°E JANUARY, 1945

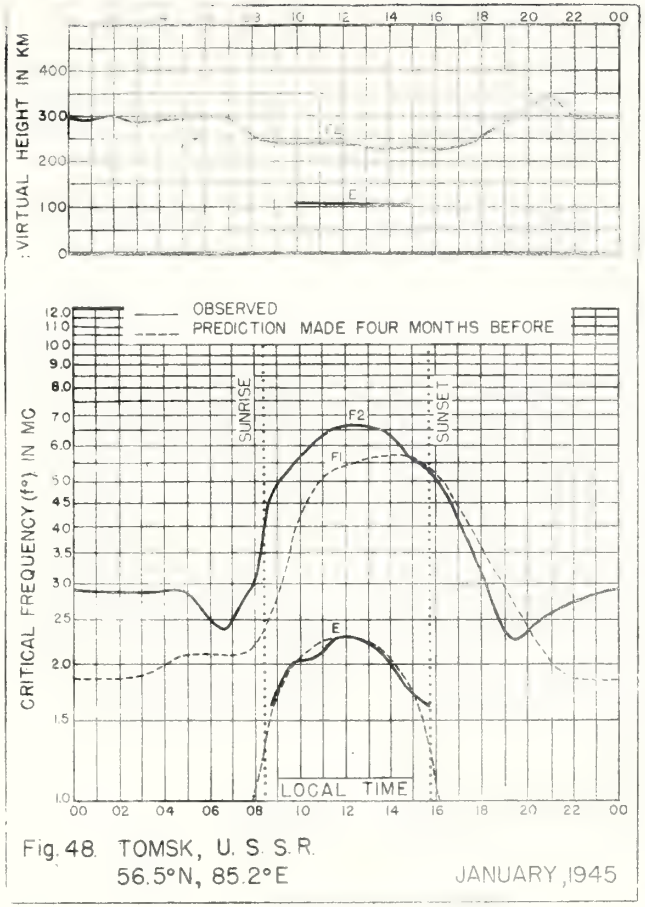

Fig. 48. TOMSK, U. S. S. R.
56.5°N, 85.2°E
JANUARY, 1945

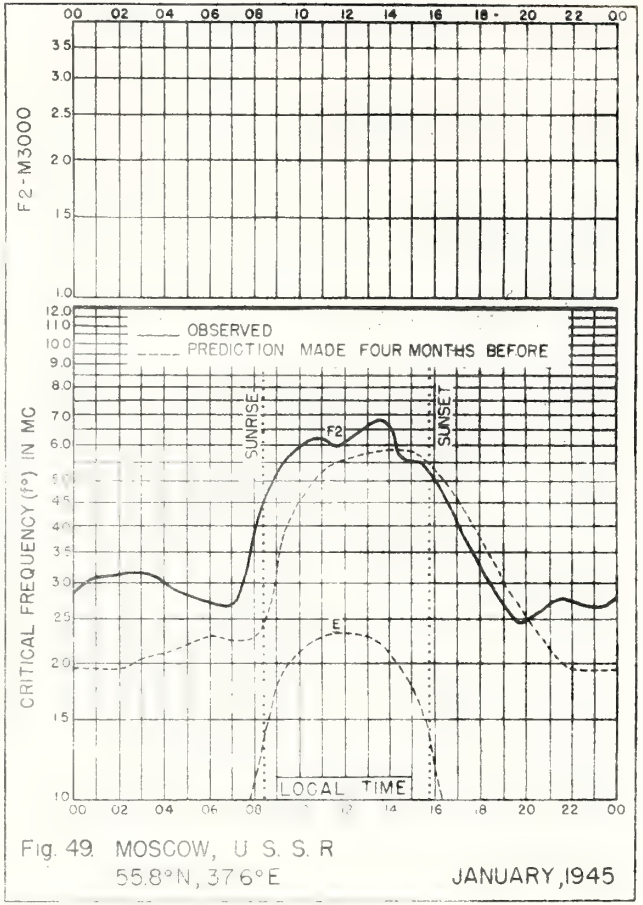

Fig. 49. MOSCOW, U. S. S. R.
55.8°N, 37.6°E
JANUARY, 1945

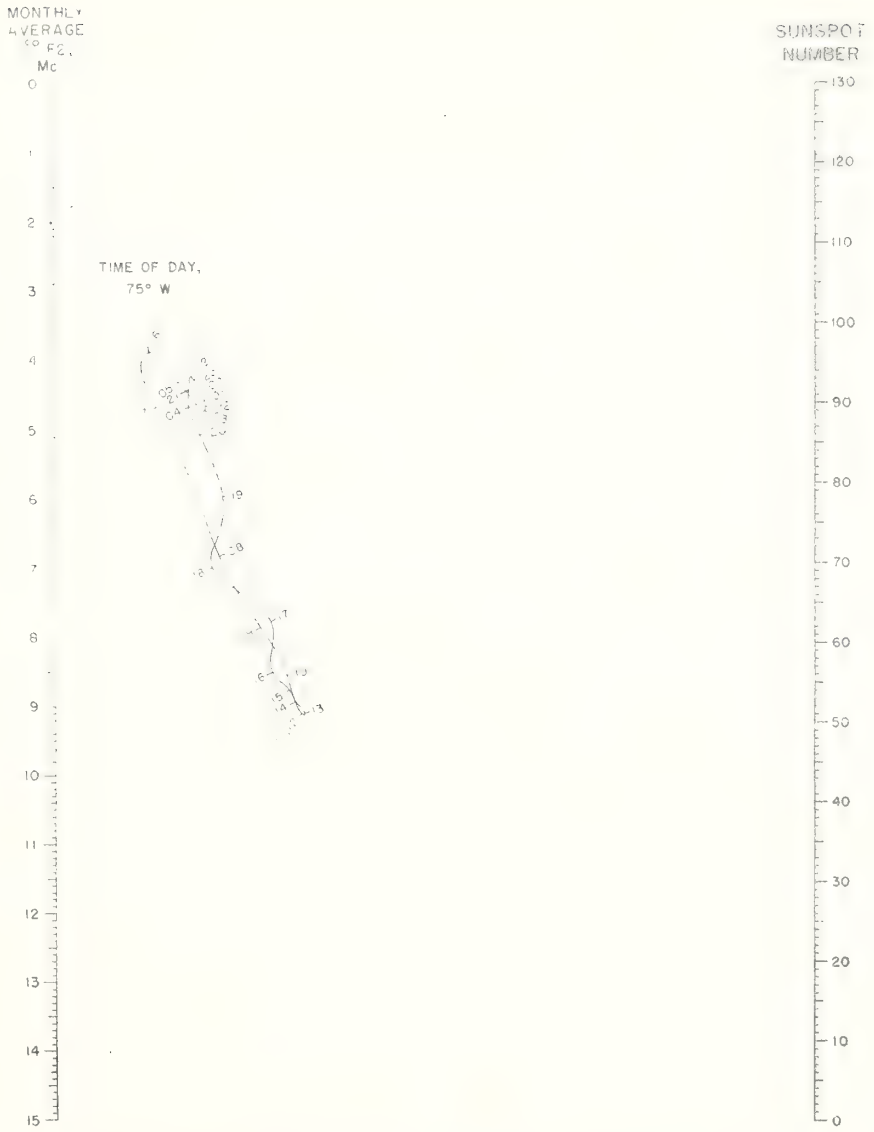

Fig. 50. NOMOGRAM FOR OBTAINING MONTHLY AVERAGE f°F2, DECEMBER, AT WASHINGTON, D.C.

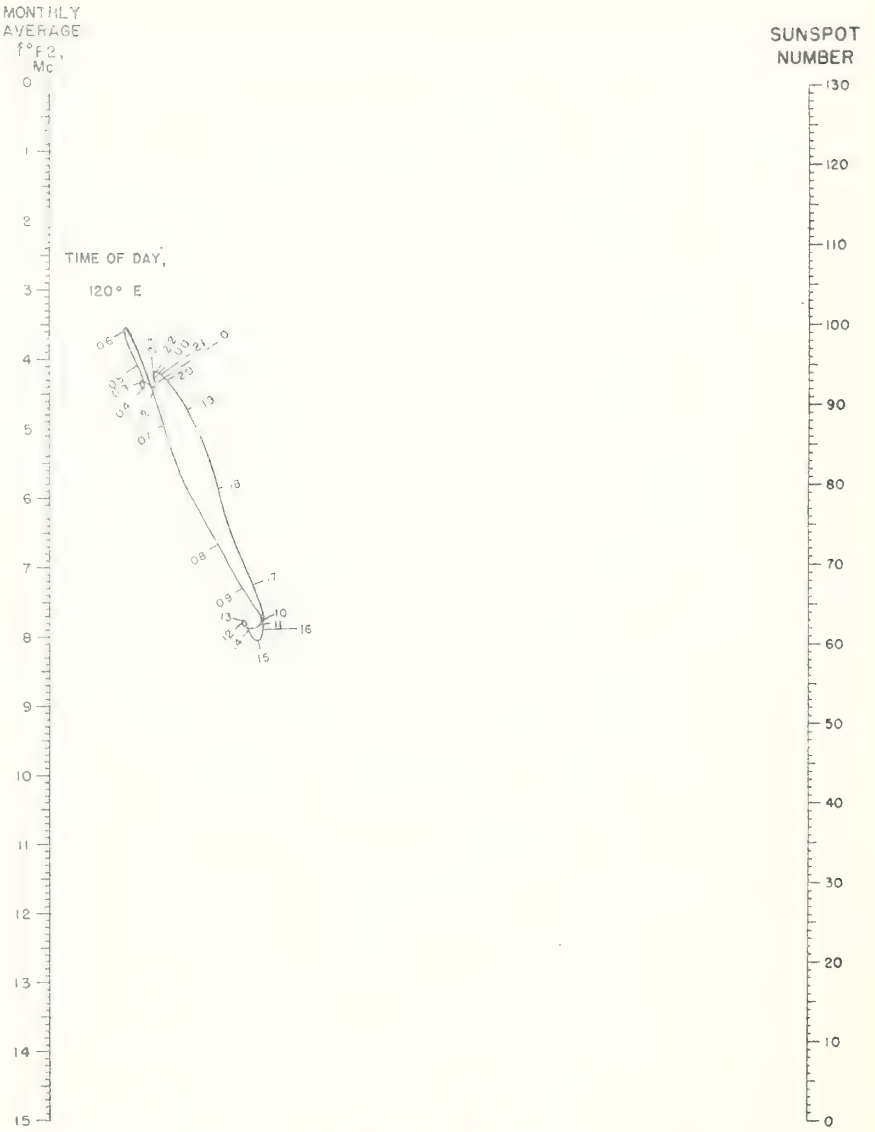

Fig. 51. NOMOGRAM FOR OBTAINING MONTHLY AVERAGE f°F2, JUNE, AT WATHEROO, W. AUSTRALIA.

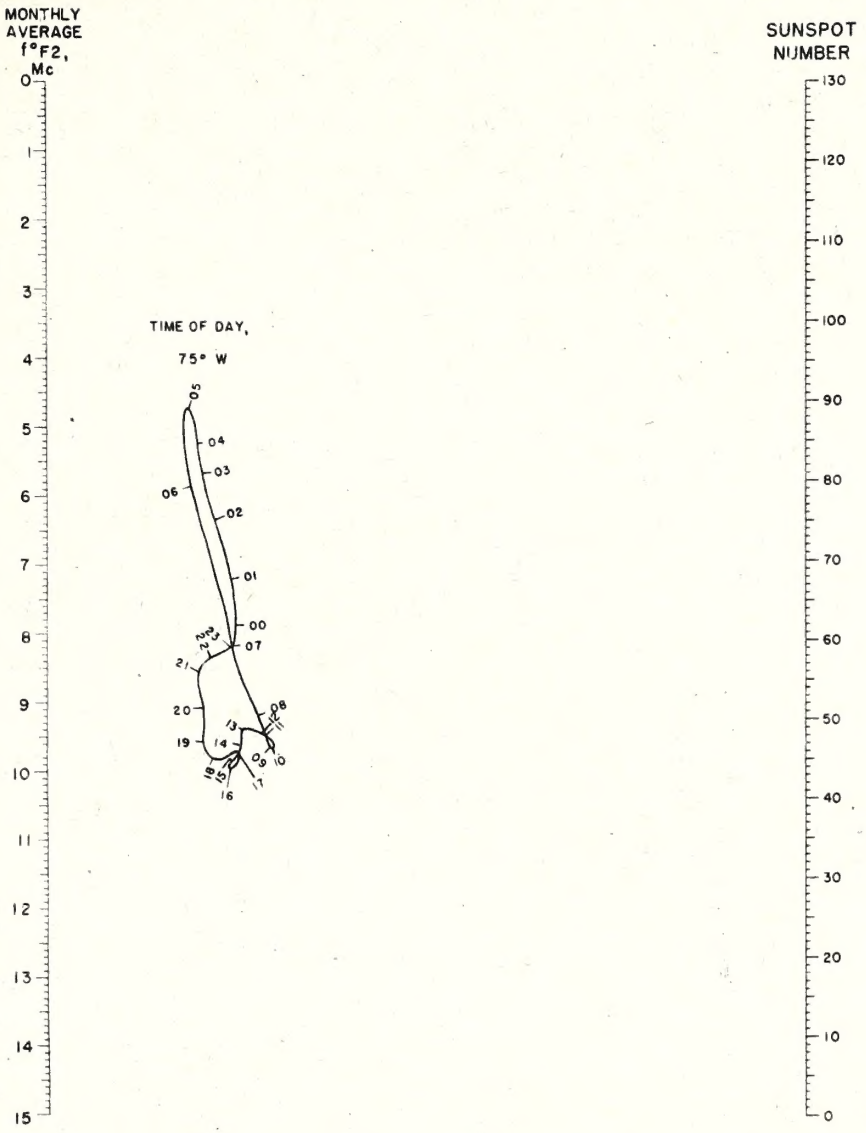

Fig. 52. NOMOGRAM FOR OBTAINING MONTHLY AVERAGE f°F2, FEBRUARY, AT HUANCAYO, PERU.

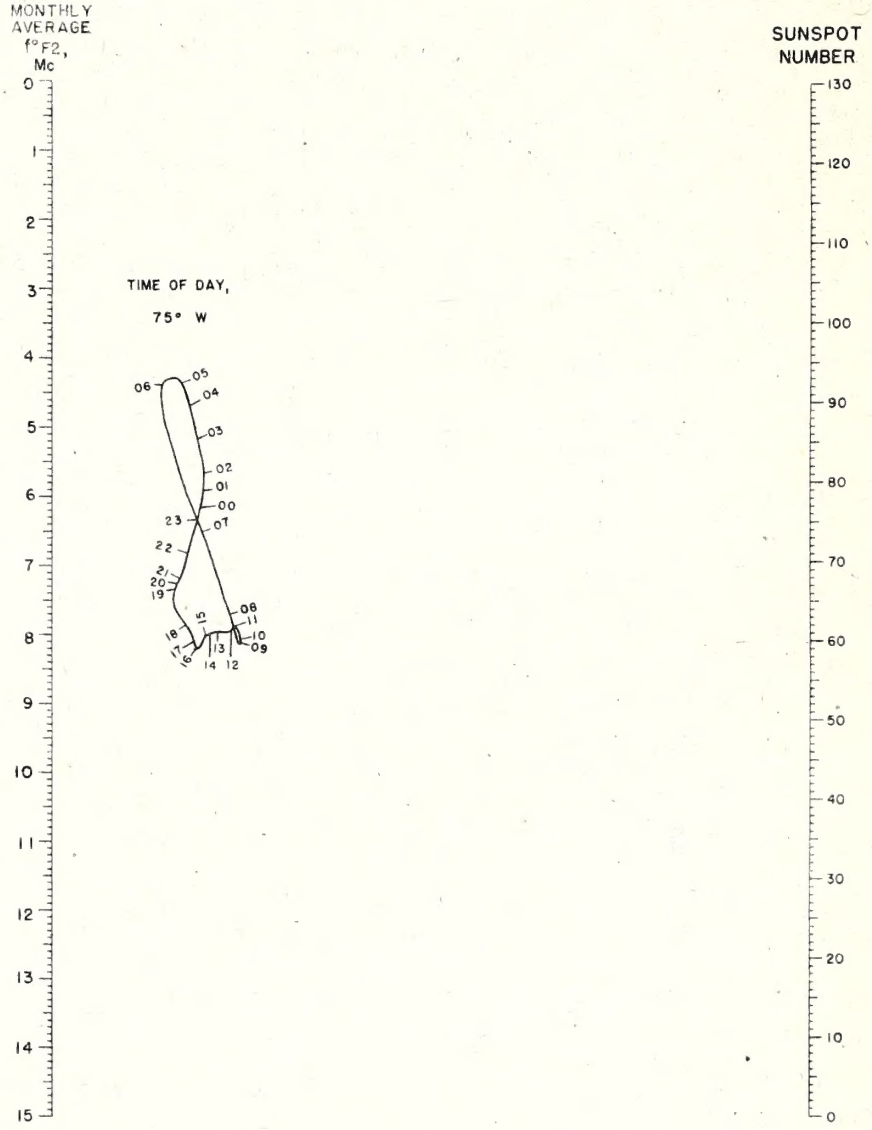

Fig. 53. NOMOGRAM FOR OBTAINING MONTHLY AVERAGE f°F2, JUNE, AT HUANCAYO, PERU.

IRPL REPORTS

Daily:

Telephoned and telegraphed reports of ionospheric, solar, geomagnetic, and radio propagation data from various places.

Radio disturbance warnings.

Semiweekly:

IRPL-J. Radio Propagation Forecast.

Semimonthly:

IRPL-Ja. Semimonthly Frequency Revision Factors for IRPL Basic Radio Propagation Prediction Reports. (Issued with IRPL-J series from 4 to 7 days in advance).

Monthly:

IRPL-D. Basic Radio Propagation Predictions - Three months in advance. (War Dept. TB 11-499- , monthly supplements to TM 11-499; Navy Dept. DNC-13-1 ( ), monthly supplements to DNC-13-1).

IRPL-F. Ionospheric Data.

Bimonthly:

IRPL-G. Correlation of D.F. Errors with Ionospheric Conditions.

Quarterly:

*IRPL-A. Recommended Frequency Bands for Ships and Aircraft in the Atlantic and Pacific

IRPL-B. Recommended Frequency Bands for Submarines in the Pacific.

*IRPL-H. Frequency Guide for Operating Personnel.

**IRPL-M. Frequency Guide for Merchant Ships.

Special Reports, etc.:

IRPL Radio Propagation Handbook, Part 1. (War Dept. TM 11-499; Navy Dept. DNC-13-1).

IRPL-C1 through C61. Reports and papers of the International Radio Propagation Conference, 17 April to 5 May 1944.

IRPL-R. Unscheduled reports:

- R1. Maximum Usable Frequency Graph Paper.
- R2 and R3. Obsolete.
- R4. Methods Used by IRPL for the Prediction of Ionosphere Characteristics and Maximum Usable Frequencies.
- R5. Criteria for Ionospheric Storminess.
- R6. Experimental studies of ionospheric propagation as applied to a navigation system.
- R7. Further studies of ionospheric propagation as applied to a navigation system.
- R8. The Prediction of Usable Frequencies Over a Path of Short or Medium Length, Including the Effect of Es.
- R9. An Automatic Instantaneous Indicator of Skip Distance and MUF.
- R10. A method for study of the ionosphere.
- R11. A Nomographic Method for Both Prediction and Observation Correlation of Ionosphere Characteristics.
- R12. Ionospheric variations.
- R13. Ionospheric and Radio Propagation Disturbances, October 1943 through February 1945.
- R14. A Graphical Method for Calculating Ground Reflection Coefficients.

IRPL-T. Reports on Tropospheric Propagation.

- T1. Radar Operation and Weather. (Superseded by JANP 101).
- T2. Radar coverage and weather. (Superseded by JANP 102).

*Items bearing this symbol are distributed only by U.S.Navy in NONREGISTERED PUBLICATIONS MEMORANDA (NRPM).

**Distributed only by U.S. Navy.